MAY 26, 1945

Railway Age

THE LIBRARY OF CONGRESS SERIAL RECORD

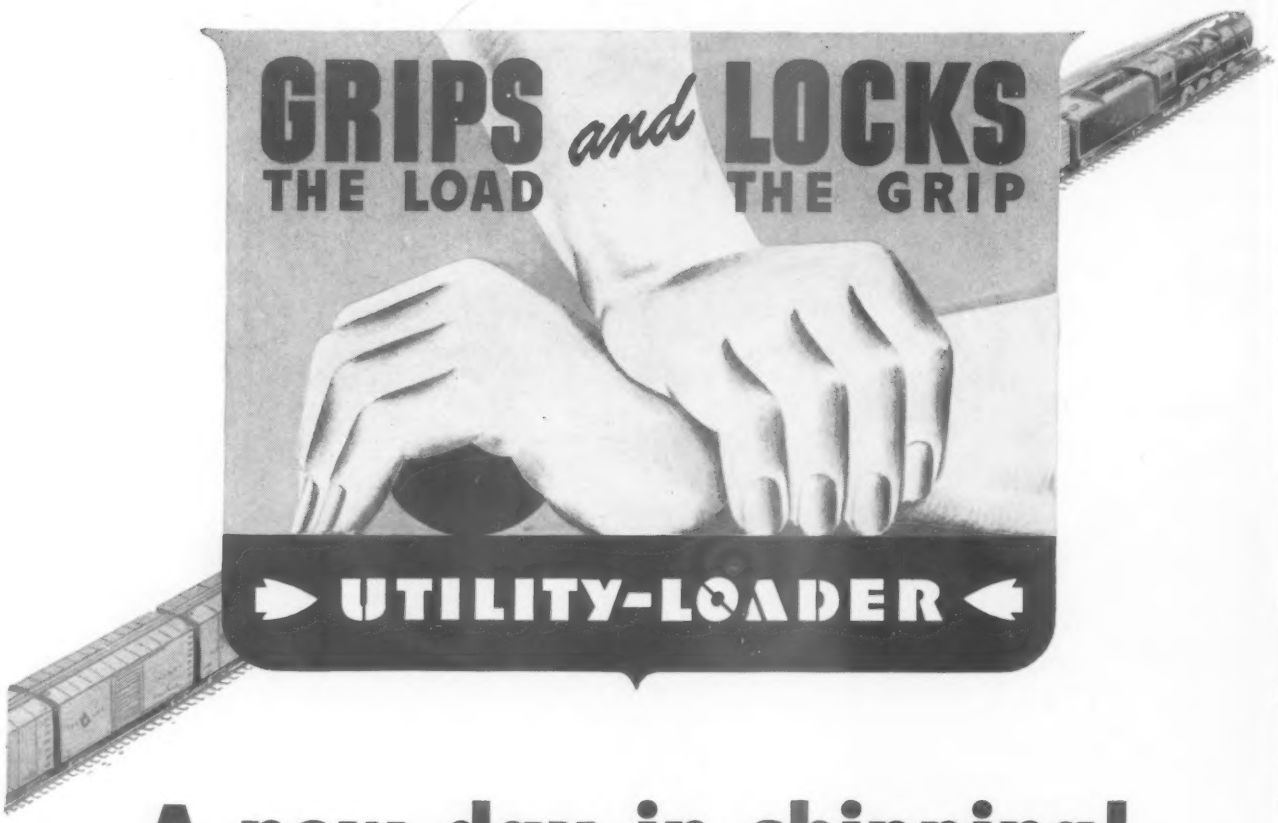
Founded in 1856

ANCHORS A WORLD OF RAILS

CHICAGO • NEW YORK • DENVER
WASHINGTON • ST. LOUIS

THE P. & M. CO.

CLEVELAND • ST. PAUL
BOSTON • SAN FRANCISCO



A new day in shipping!

WHEN a box car is equipped with the Evans **GENERAL PURPOSE UTILITY LOADER,** its load is gripped, then the grip is locked against vertical vibration, longitudinal shock and shifting in transit.

Box car damage, car-cleaning time and car-loading time are all reduced by the **GENERAL PURPOSE UTILITY LOADER.** Because it eliminates damage and increases the pay load, regardless of the shape or size of the cargo, the **GENERAL PURPOSE UTILITY LOADER** will mean new high standards of heavy loading . . . a bright new day in shipping for shipper, consignee and carrier alike.

Write for your copy of the Evans manual illustrating the manifold uses of **GENERAL PURPOSE UTILITY LOADER** equipment.

UL FOR THE GOOD OF THE RAILROADS

EVANS PRODUCTS COMPANY

DETROIT 27, MICHIGAN

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 118, No. 21.

what's behind the trend to Wrought-Steel Wheels?

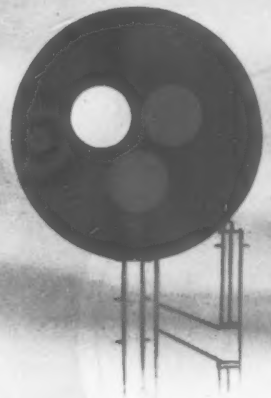
Lower cost per mile sums it up. But *why* does a Bethlehem Wrought-Steel Wheel cost less in the long run?

For one thing, because wrought-steel wheels are far less subject to the defects that have long played hob with upkeep and replacement costs. Such defects as shelling out . . . seams . . . brake-burn . . . chipped, cracked, and broken flanges . . . cracked or broken webs.

Every Bethlehem Wrought-Steel Wheel is assurance of the finest basic materials, expert engineering, and advanced manufacturing processes. Many thousands of these wheels, together with Bethlehem forged-steel axles, are spelling out h-i-g-h m-i-l-e-a-g-e under today's unparalleled conditions. And high mileage means lower cost per thousand miles of operation—less maintenance—fewer cars laid up for wheel and axle changes.

That's a tip for *today* . . . and for after the war as well.

Bethlehem Wrought-Steel Wheels and Forged-Steel Axles



New York Central's

It's the largest and most powerful coal-fired steam locomotive ever built for high speed service on the New York Central!

And Alcoa Aluminum is used extensively in this new giant, which is expected to set the post-war trend of design in high capacity, reciprocating coal-fired locomotives.

Cab, cab ventilators, cylinder-head casing, steam chest casings, sandbox and piping, smoke deflectors, air compressor covers, conduits and fittings, crosshead slippers, running boards and handrails are made of Alcoa Aluminum.

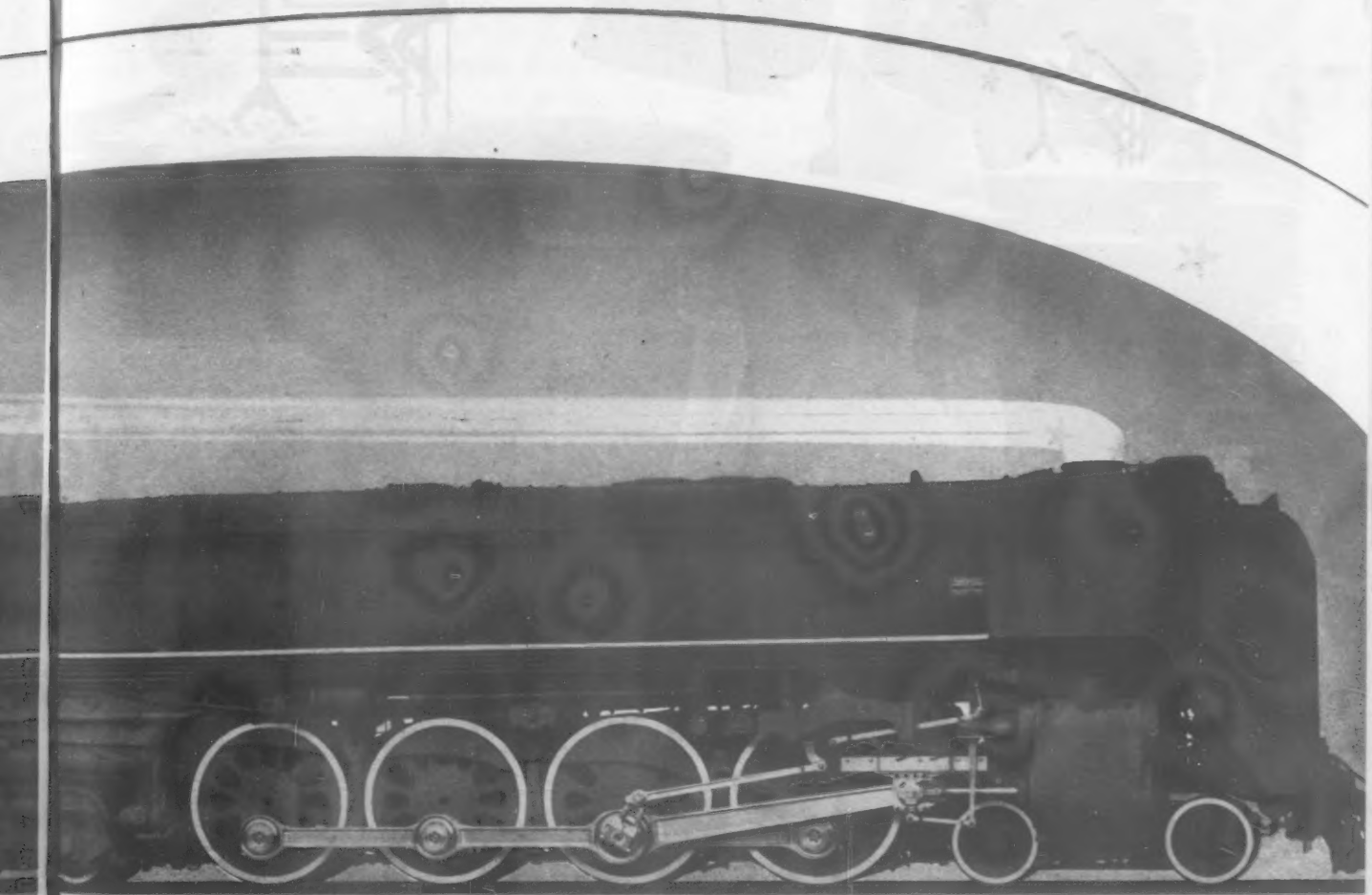
ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA FIRST IN ALUMINUM

New Giant Locomotive

features use of

ALCOA ALUMINUM

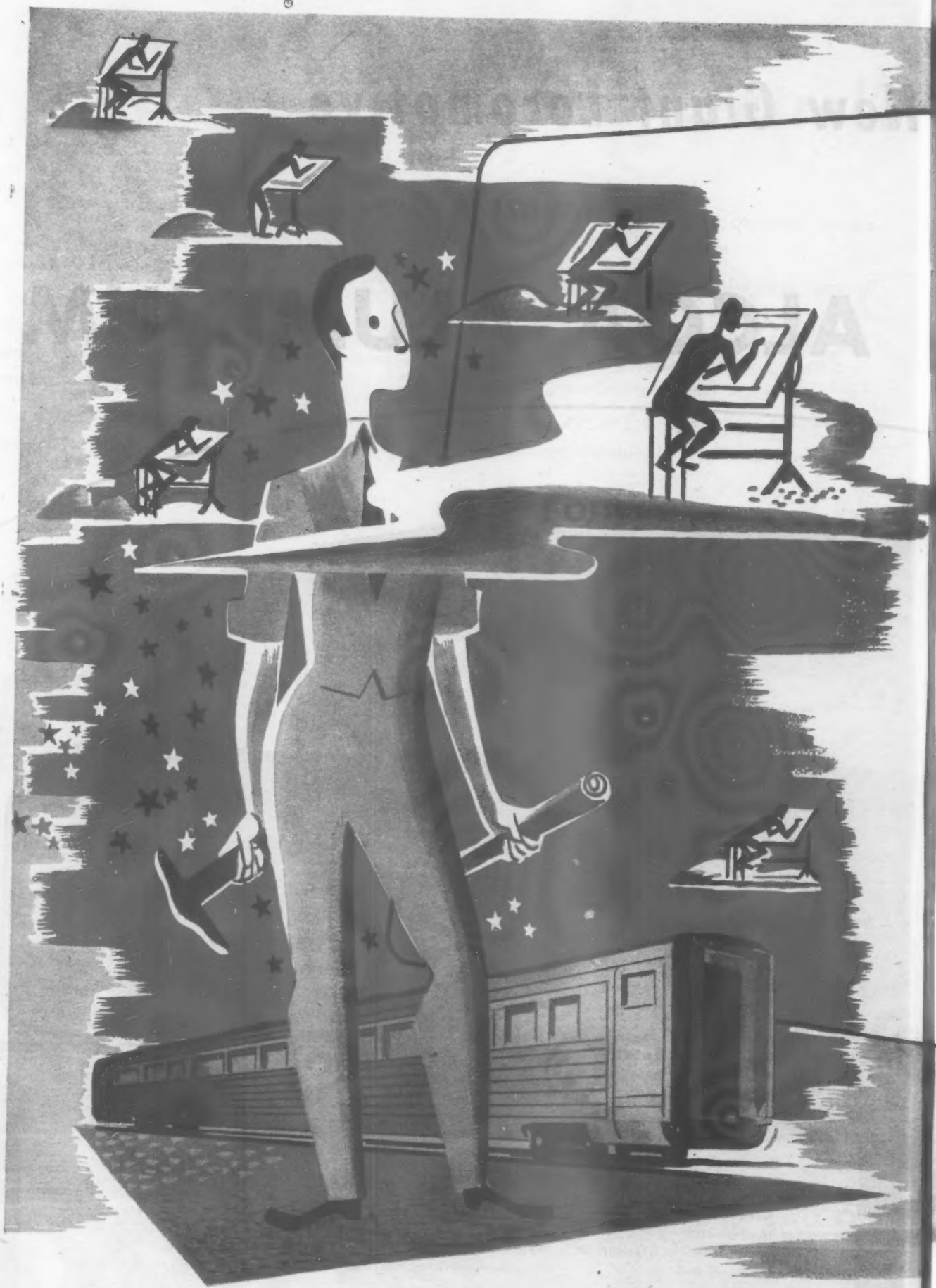


HIGHLIGHTS ON NEW YORK CENTRAL'S "NIAGARA"

Name—"The Niagara"
Number—6000
Builder—American Locomotive Co.
Length—97 feet

Wheel Arrangement—4-8-4
Coal Capacity—46 tons
Water Capacity—18,000 gallons
Horsepower—more than 6000 h.p.

Steam Pressure—275 pounds tor 75-inch driving wheels
Boiler—new design fire tube, greatest diameter ever used on NYC



IN THIS MATTER OF POSTWAR STREAMLINERS

Our head is in the clouds

...but our feet are on the ground!

Gaudy, futuristic car designs make fascinating reading, but a.c.f. is more interested in whether the public will put its travel money on the line — not occasionally but MOST of the time in *railroad* coffers.

That is why we see the task of increasing railroad "take" as one not of design novelty alone but of sound, constructive advances that will appeal to the *largest number* of the traveling public. A swimming pool car, no doubt, would be very appealing in the summer to teen age youngsters — but a coach to which ALL travelers would flock because of superior atmosphere and year 'round comfort looks to us like a better investment for the railroads.

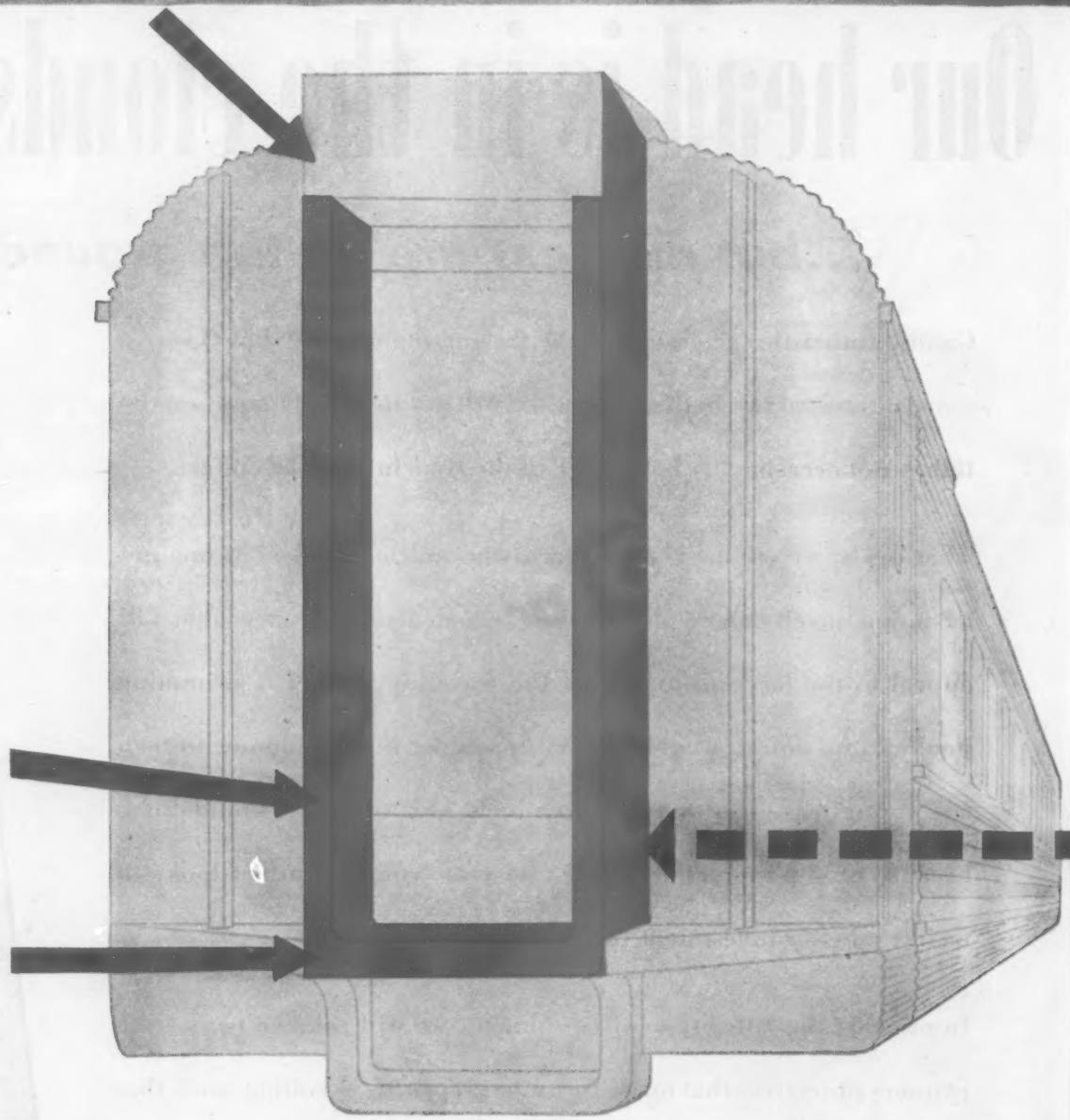
In offering the latter type of equipment, we will achieve two of the primary objectives that make for railroad profits — rolling stock that will *wear well* with the passengers and *wear well* on the rails!

a.c.f. AMERICAN CAR AND FOUNDRY COMPANY

NEW YORK · CHICAGO · ST. LOUIS · CLEVELAND · WASHINGTON · PHILADELPHIA · PITTSBURGH · ST. PAUL · SAN FRANCISCO

WHATEVER a.c.f. BUILDS...IT IS KNOWN TO BUILD WELL!

BUDD CARS HAVE *STRONGEST* AND



EDWARD G. BUDD MANUFACTURING CO

PHILADELPHIA • DETROIT • NEW YORK • CHICAGO • ST. LOUIS • WASHINGTON • SAN FRANCISC

SAFEST END POST CONSTRUCTION

Stainless Steel end posts in BUDD cars are more than double A.A.R. minimum strength requirement

Stainless steel, weight for weight, is twice as strong as low alloy steel such as Cor-Ten, and three times as strong as ordinary structural steel. Because of its toughness, stainless steel, if forced to yield, will continue to resist shearing action. This is important when it is considered that the loads imposed on the end collision posts are those of impact and not loads which are applied slowly. Impact is better resisted than opposed.

Continuous operation in service has proved the extra value and worth of Budd Cars — a superiority forecast by thorough engineering tests in the Budd Test Plant Laboratory. Light weight and remarkable strength assure lower operating costs as well as greater safety.

Budd

BUDD BUILDS TO

The primary consideration in Budd's building of railway cars is to make them strong. Selection of material, improved design, extraordinary reinforcement at points of stress, the* SHOTWELD* *system of fabrication—all contribute to making the strongest passenger car offered to American railroads.

It is a secondary advantage, of great value in railroad operation, that Budd-built cars are also light in weight. This saving in weight results from the use of stainless steel, the strongest known metal suitable for structural purposes. Twice as strong as low-alloy steels such as Cor-Ten and three times as strong as carbon steels, stainless steel permits the use of lighter structural members without sacrifice of strength and safety. Budd design also contributes to strength. The adaptability of stainless steel to Budd's modern methods of bending and forming leads to stronger and more permanent structures.

*REG. U. S. PAT. OFF.

STRENGTH

What does light weight mean to railroad economy?

It is a fair comparison that seven cars of stainless steel will weigh less than six cars of any other structural material of equal strength. Easily demonstrable is the fact that the extra passengers thus hauled by the same power will not only pay for the seventh car but will quickly repay the stainless steel cost of the entire train.

There are further advantages in ability to maintain fast schedules, in swifter starting, quicker stopping and in a remarkable record of availability.

As we have said, however, the first consideration is strength—and safety for passengers. No price can be set on safety. Railroads have long been guided by this principle in discharging their high responsibility to the public. Budd's contribution has been to bring to practical usefulness in car-building a new metal, long thought to be intractable. That stainless steel trains prove to be a profitable investment, despite their higher cost, is simply further evidence of value.

EDWARD G. BUDD MANUFACTURING COMPANY

Budd

PHILADELPHIA • DETROIT • NEW YORK • CHICAGO • ST. LOUIS • WASHINGTON • SAN FRANCISCO

Bedroom Luxury at Moderate Cost

...by PULLMAN-STANDARD

Whether it be a new conception in car design or details that make for comfort and efficiency, Pullman-Standard steadily contributes to railway progress.

Now, on the threshold of a new era in transportation, we offer cars that will help the railroads to greater heights of popularity.

This new bedroom has all the privacy, comfort and conveniences of de luxe accommodations.

Pullman-Standard leads the way . . . in research . . . in sound design . . . in fine workmanship. Ride in a Pullman-Standard-built modern car and make your own comparison between it and others for comfort, smooth riding and all-around quality.

The 7th War Loan drive is on . . . buy more bonds and help finish the job.

Pullman-

CHICAGO • NEW YORK

Wide comfortable couch (daytime) • Table for meals, writing or games • Broad, full-vision window • Wide window sill Two full-length beds • Complete concealed toilet facilities Ample luggage room

PATENT APPLIED FOR

INDIVIDUAL CONTROL OF
heat • light • ventilation • air conditioning

Standard CAR MANUFACTURING COMPANY

CLEVELAND • WASHINGTON, D. C. • PITTSBURGH • BALTIMORE • BIRMINGHAM • WORCESTER, MASS.

San Francisco Sales Representative, Mark Noble

It was LUXURY then—but now they

POSTWAR PASSENGERS WILL PATRONIZE CARRIERS THAT OFFER THE MAXIMUM COMFORT, SERVICE, SPEED AND SAFETY.

Modernize with Westinghouse

expect COMPLETE MODERNIZATION

. . . modernization made possible by the Axle Generator

Over 50% of the railroad passenger cars now in use are over 25 years old. Many of these cars will be replaced or completely modernized . . . to meet tomorrow's requirements for new travel comfort and convenience. Passengers will expect new designs, new furnishings, up-to-date electrical equipment.

For this reason, postwar plans must include modernization features such as . . . air conditioning . . . electric water coolers . . . improved lighting . . . air cleaners . . . improved power supply . . . and other engineering improvements.

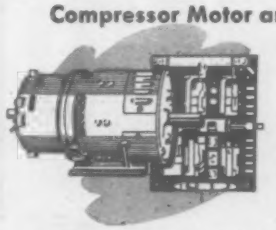
These modernization features require large generators . . . with increased margin of capacity. Westinghouse has developed the Axle Generator that can adequately carry these increased loads. Investigate the numerous advantages of the Westinghouse Axle Generators. Ask your Westinghouse office for a copy of "Development of Electrical Equipment for Standard Railroad Passenger Cars". J-95101

WESTINGHOUSE AXLE GENERATOR

Axle Generator and auxiliary motor are built in a single unit—constructed for mounting on the car body—adapted for driving from the car axle. Self-ventilated rolled steel frame includes removable covers and baffled openings for protection. Rating is 20 kw, 76 volts, 1500 rpm, and weight is 1315 pounds. Included are antifriction bearings. Class B insulation is used on armature and all field windings. In yards and during long station stops the stand-by a-c motor may be plugged into wayside power supply facilities to drive generator and maintain electrical service in the car. For details of the Westinghouse Axle Generator ask for "Control Equipment for YXG-1-A Axle Generator Specification".

Consult Westinghouse on your plans for passenger car modernization. Available are axle-driven generators and control for high-speed operation; compressor motor and control for air conditioning; fluorescent lighting equipment; Precipitron for electrostatic air cleaning of cars; water coolers; "De-ion" circuit breakers; and other equipment for efficient car operation. Westinghouse Electric Corporation, P.O. Box 868, Pittsburgh 30, Pa.

Air Conditioning . . . with Westinghouse Compressor Motor and Control

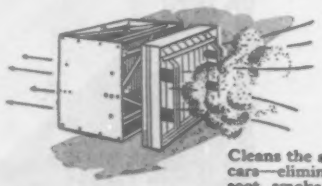


Strong, lightweight, compact construction of motor and control, assure dependable service.

Westinghouse Water Coolers

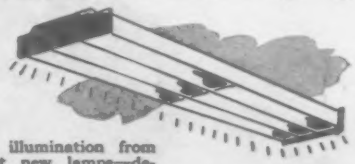
Electric water coolers of ample capacity—"tailor-made" for railway service.

Air Cleaning . . . with Precipitron



Cleans the air in passenger cars—eliminates 90% of soot, smoke, dirt—permits smoking in every car.

Westinghouse Fluorescent Lighting



Better illumination from efficient new lamps—designed to fit new lighting plans.

"De-ion" Circuit Breakers

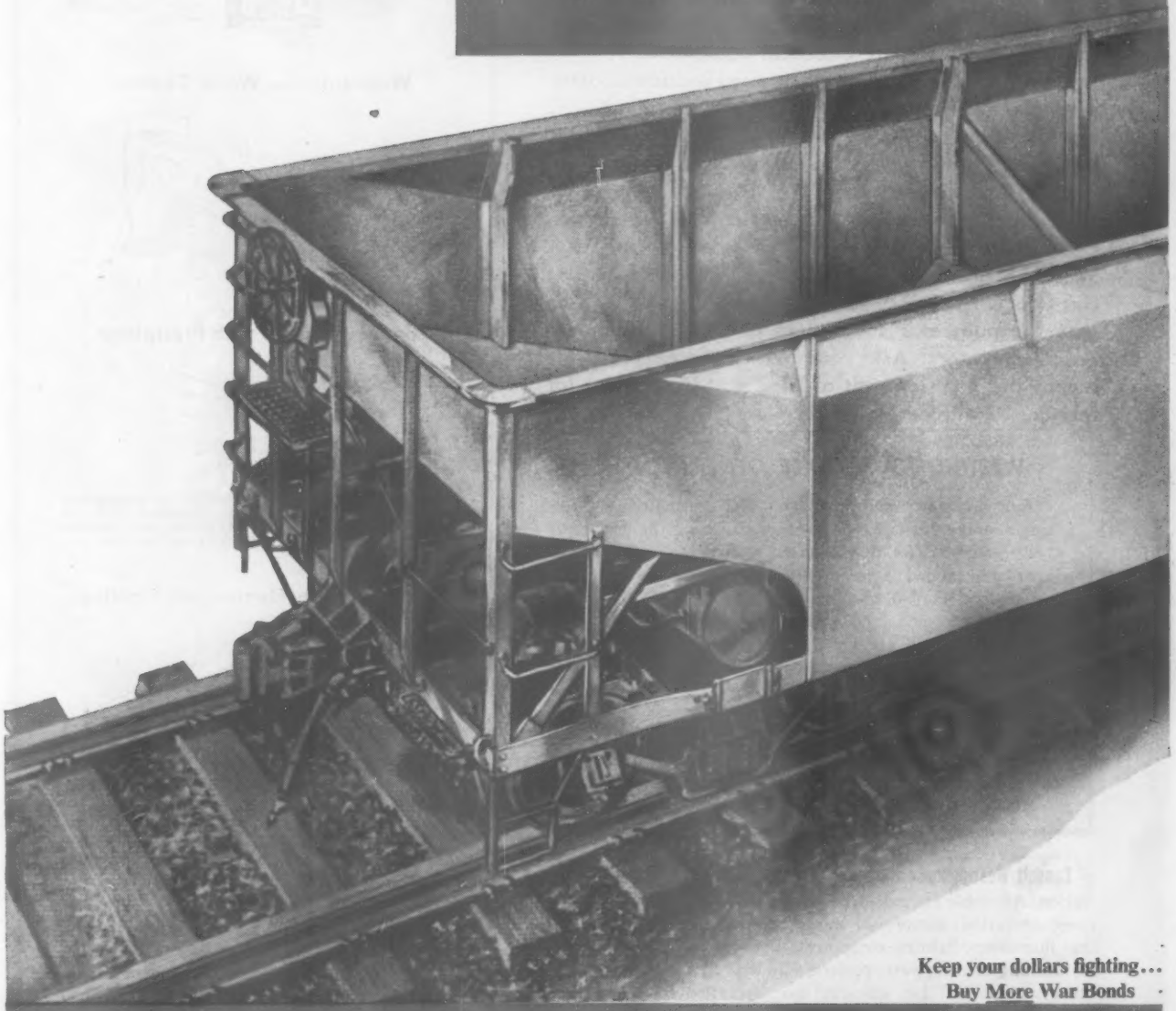
Permit maximum loading of circuits—quick resumption of interrupted service — positive protection.

WESTINGHOUSE

RAILROAD ELECTRICAL EQUIPMENT

How UP-TO-DATE Are You On ALUMINUM?

WHO



Keep your dollars fighting... Buy More War Bonds

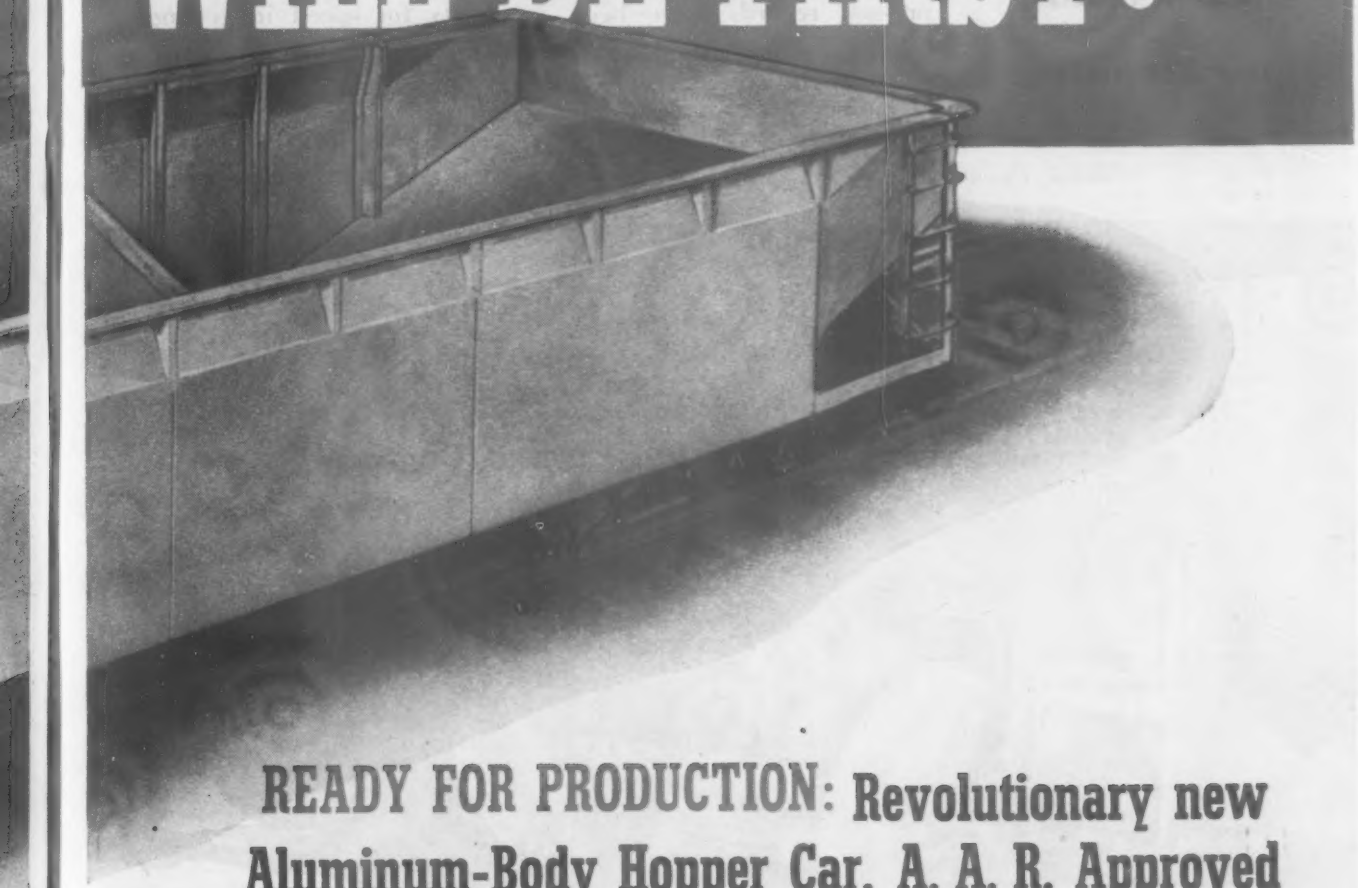
REYNOLDS METALS

REYNOLDS

The Great New Source of **ALUMINUM**

INGOT · SHEET · SHAPES · WIRE · ROD · BAR · TUBING · PARTS · FORGINGS · CASTINGS · FOIL · POWDER

WILL BE FIRST?



READY FOR PRODUCTION: Revolutionary new Aluminum-Body Hopper Car. A. A. R. Approved

WITH TRAIN SPEEDS and car loadings both sharply up over the last few years, the need for specially designed rolling stock has correspondingly increased.

To meet this demand, Reynolds offers a series of especially designed cars featuring new lightweight, high-strength aluminum alloys developed by Reynolds metallurgists.

The hopper car shown in the illustration, approximately 20% lighter in weight than standard cars of like cubic capacity, permits greatly increased payload.

At the same time, the center of gravity is lower, allowing dispatchers to include cars of this type in high-speed "symbol" trains.

Resistance to the corrosive action of coal as well as steam and fumes is another important feature. This, combined with tougher-than-steel super-structures, means lower maintenance costs —higher net revenue per ton-mile.

* * *

Exhaustive studies covering every phase of operation and maintenance have developed much information of interest to every railway executive. Inquiries regarding Reynolds aluminum and aluminum alloys and their application to new car designs are welcome. Address: Reynolds Metals Co., Railway Supply Division, 310 South Michigan Blvd., Chicago 4, Ill.

REYNOLDS ALUMINUM

Car Wheel Demounting Records

40 Seconds

Floor-to-floor

•

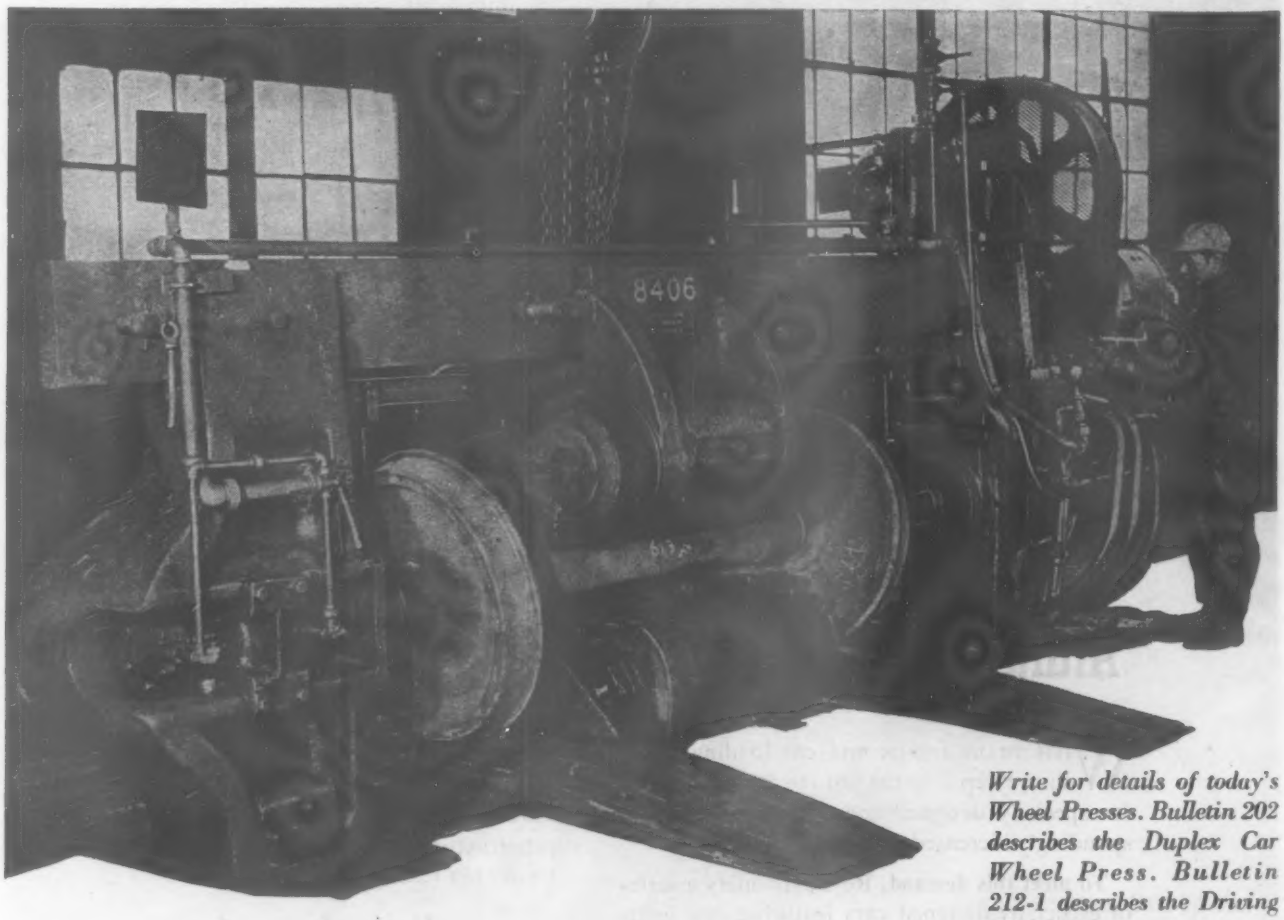
72 Seconds

for Mounting

Chambersburg Wheel Presses have established records in railroads shops all over the country for the speed with which they permit the rapid mounting or demounting of wheels. On the car wheel presses, records have been made for demounting wheels as low as 40 seconds per wheel floor-to-floor—mounting time as rapid as 72 seconds.

These presses have been designed and improved with the needs of the railroad shop constantly in mind—the necessity for speed in getting car wheels back in service has been paramount.

(Below) Chambersburg Duplex Car Wheel Press in shops of L. & N. R. R.



Write for details of today's Wheel Presses. Bulletin 202 describes the Duplex Car Wheel Press. Bulletin 212-1 describes the Driving Wheel Press.

CHAMBERSBURG ENGINEERING CO., CHAMBERSBURG, PA.

ARMY E NAVY

CHAMBERSBURG

HAMMERS · CECOSTAMPS · PRESSES

• When again you can specify equipment material for dining car kitchens and pantries, remember this: *For longest life at lowest cost*—plus all-around satisfaction — no other material can surpass long-lasting Republic ENDURO Stainless Steel.

ENDURO cuts maintenance and replacement costs—because it is tough, strong and withstands rough use and abuse. Its gleaming surface offers lifelong protection against rust and corrosion.

ENDURO construction is light in weight, too, because its high strength-to-weight ratio permits thinner, lighter sections without loss of strength.

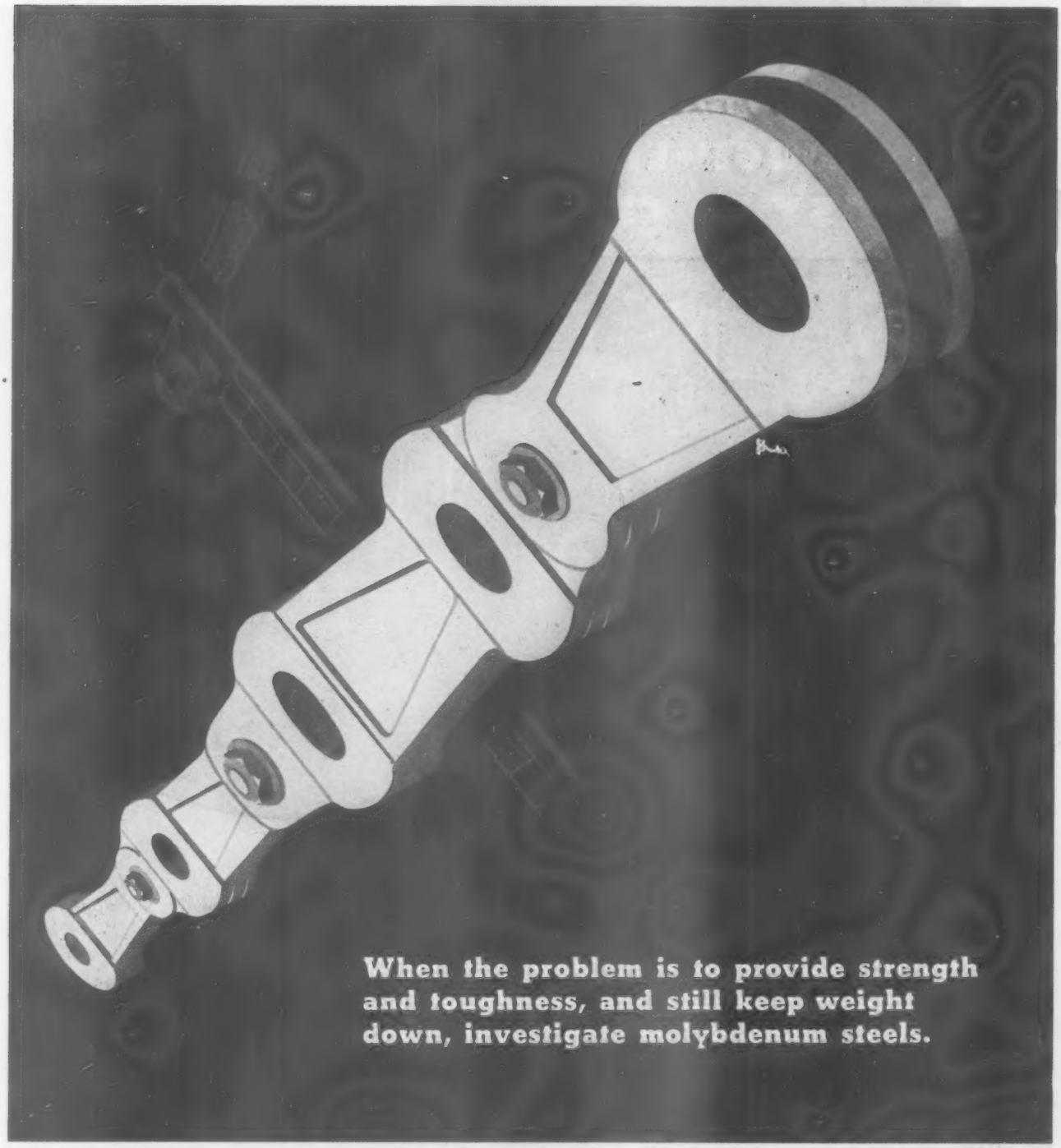
ENDURO is remarkably easy to clean. A simple wash and wipe usually restores its sparkling, sanitary surface in a hurry. Greasy, sticky substances come off quickly, safely and easily with standard cleaning compounds.

NOW is the time to include ENDURO in your postwar car-building plans. For complete details—see your equipment manufacturer, or write directly to:

REPUBLIC STEEL CORPORATION
Alloy Steel Division • Massillon, Ohio
GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, N. Y.

Republic
ENDURO STAINLESS STEEL
Reg. U. S. Pat. Off.

Other Republic Products include Carbon and Al



CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS.

ARMY E NAVY

MOLYBDIC OXIDE, BRIQUETTED OR CANNED • FERROMOLYBDENUM • "CALCIUM MOLYBDATE"

Climax Molybdenum Company

500 Fifth Avenue · New York City

MOLY

PRESSTITE Compound Seals All Metal Joints in Army's Giant M4 and M6 High Speed Tractors

A Partial List of Industries for Which Presstite has successfully Developed Special Sealing Compounds:

For the Aircraft Industry:
- Sealers for Integral Fuel Tanks
- Fuselage Seams
- Drop-off, Expendable Fuel Tanks
- Gun Turrets
- Synthetic Glass
- Instruments
- Intercoolers
- Air Ducts
- Insulating Dissimilar Metals
- Seaplane Floats

For the Refrigeration Industry:
- Sealers for Domestic and Commercial Refrigerators
- Bonding and Sealing Low Temperature Insulation in Refrigerated Rooms

For the Railroads:
- Sealers for Insulating, Soundproofing, and Weatherproofing of Railway Cars—Sealing Car Windows and Spot Welded Seams

For the Building Industry:
- Roof Coatings, Caulking and Waterproofing Compounds

For the Radio Industry:
- Sealers for Radio Panels and Cases, Coil Impregnation—Many Communication Equipment Applications

For the Automotive Industry:
- Special Adhesives and Sealers

For the Construction Industry:
- Sealers for Jointing Sewer Pipes
- Sealers for Waterproofing Excavation Work

Miscellaneous:
- For Glazing Greenhouse Windows
- Extruded Caulking Compounds
- Ammunition Paints
- Plus Many Special Products for the Army and Navy

Our Engineering, Technical, and Laboratory facilities are at the service of any industry with a sealing problem.

M4 Prime Mover in severe muddy terrain.

Placing Presstite Sealing Compound (Type SS-50) around engine inspection hole at rear of hull.

Applying Type SS-50 Sealer on closure between cab roof and front.

Weighing 18 and 38 tons, respectively, and manufactured by the Tractor Division of Allis-Chalmers, these units are the last word in power and speed in military tractors. Used to haul big guns over all types of terrain, these massive vehicles must be thoroughly sealed against moisture, mud, and water.

Presstite Sealing Compound Type SS-50, in extruded form, is used to seal all metal joints in the hulls, as well as to caulk front closure plates, bumper supports, and all joints between cab roof and side panels.

Again Presstite Sealing Compounds have proven their ability to stand up under the most exacting standards and the hardest conditions of use—just as they have successfully met the rigid requirements of military aircraft construction.

To industry at large, Presstite offers the same engineering skill and specialized experience that has developed so many varied types of sealers for wartime use. We are ready to work with you and your engineers on *any* sealing or coating problem. Just send us your requirements—now.

PRESSTITE SEALING COMPOUNDS

PRESSTITE ENGINEERING COMPANY
3854 Cheuteau Avenue, St. Louis 10, Missouri

Zinc S-T-R-E-T-C-H-E-S with the steel...

...gives you unbroken protection

In this severe test ARMCO ZINCGRIP is folded and refolded. Regular galvanized steel would flake badly at the corner to which the pencil points, but the coating on ZINCGRIP remains unbroken.

This is the famous "Handkerchief Test" on ARMCO ZINCGRIP.

It clearly shows how the special zinc coating *stretches* with the steel during severe fabricating operations. This means *unbroken zinc protection* for your passenger and freight car roofs and other parts.

Regular galvanized steel, as satisfactory as it is for many uses, won't take the severe draws or double-lock seaming required for many parts. The zinc coating flakes off, and complete protection is lost. Naturally the equipment doesn't stand up as long in service, costs money to replace.

THIS IS THE ANSWER

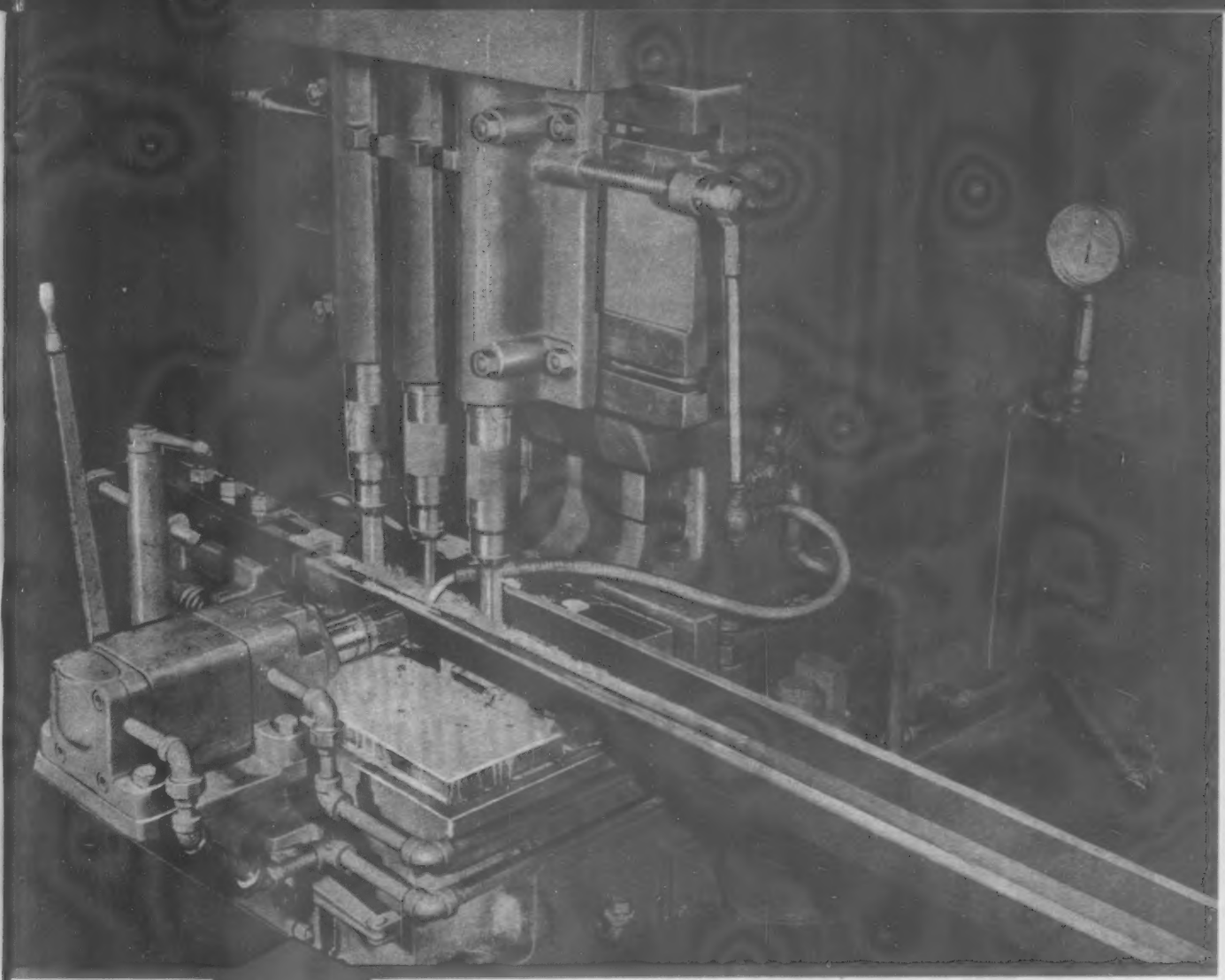
ARMCO ZINCGRIP solves the problem. Its specially-applied zinc coating clings tightly to drawn corners as well as the flat parts. No bare spots are left for corrosion to feed on.

If your sheet steel car parts need zinc protection, we'd like to tell you more about ARMCO ZINCGRIP.* Just write the Armco Railroad Sales Co. Inc., 1671 Curtis Street, Middletown, Ohio, for our free booklet.

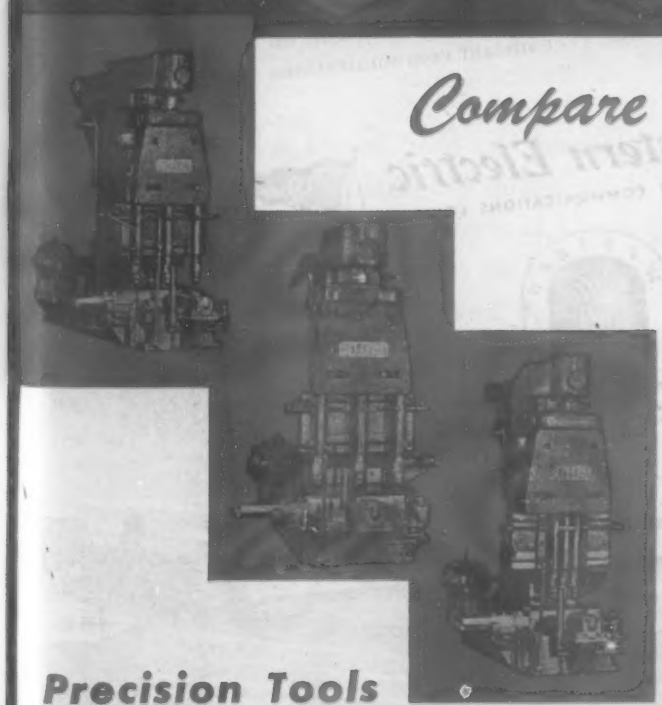
ARMCO
Railroad Sales Co. Inc.

ZINCGRIP ★ ARMCO ★ STEEL

*ARMCO PAINTGRIP, a special Bonderized surface treatment, is recommended for ZINCGRIP products requiring immediate painting.



The New SELLERS RAIL DRILLING MACHINE



Compare It With the "Old Timers!

SELLERS engineers were well acquainted with the many disadvantages of existing machines, so they started from scratch to design a drill which could cope with modern rail mill practice. The result of their efforts has been enthusiastically received wherever rail-drilling is an important operation.

SELLERS construction is simple, the parts strong and the spindles supported as close as possible to the work. Its gearing is unusually strong and mounted in oil-type casing on the top of the main housing. All gears are high grade forgings and run in oil. All shafts are mounted in anti-friction bearings . . . This type of drive requires no more attention than the rear axle of an automobile.

Saddle can be set to drill any thickness of rail, either automatically or hand operated . . . Minimum distance between spindles is 3½". Maximum, 12" . . . Designed also for elongated holes.

For complete technical data and delivery dates, write:

Precision Tools Since 1848

WM. SELLERS & COMPANY

COMMUNICATIONS FOR A WORLD THAT MOVES!
The ever increasing speed and range of transportation equipment calls for more and better mobile communications facilities.
Pioneers in the field of mobile radio, we've developed new techniques in our role as the nation's largest producer of communications and electronic equipment for war. With the coming of peace, new Western Electric equipments designed by Bell Telephone Laboratories will be on the job in police cars, fire trucks, buses, delivery trucks, private cars, ships, planes and on the railroads—wherever instant communications are needed.
Western Electric
ARSENAL OF COMMUNICATIONS EQUIPMENT
ARMY NAVY
Western Electric
Distributed by GraybaR
During the 7th War Loan Drive, buy bigger, extra War Bonds!

1,102,939 Non-Shop Miles *with* Union Pacific's 9-M-1A

WHEN big Diesel "9-M-1A" recently completed 1,102,939 miles in 53 months without a major overhaul, Union Pacific operating efficiency and maintenance were entitled to take a new bow. Another achievement had been added to Union Pacific's previous record-breaking non-shop Diesel runs.

Outstanding maintenance implies adequate lubrication. "9-M-1A" made its mileage record on Sinclair Gascon G. L. Diesel Oil, one of the Sinclair lubricants used by Union Pacific.

Sinclair Gascon has natural detergent and anti-oxidant properties promoting clean engine operation, also wear-prevention qualities that hold down expensive maintenance and replacement outlays. Its efficiency has been proven in service on 35 leading railroads.

SINCLAIR RAILROAD LUBRICANTS

SINCLAIR REFINING COMPANY, *RAILWAY SALES*, NEW YORK • CHICAGO • SAINT LOUIS • HOUSTON

May we interrupt..?

We can assist you with your post-war plans

If you are thinking of the multi-story building you will build when the war is over — or

If you are among the thousands of progressive property owners and building managers who are thinking of modernizing their vertical transportation system when labor and materials are available —

We suggest that you get the planning behind you now as we have learned by experience that the preliminary plans for an elevator or escalator installation often take more time than is required for the manufacture and installation.

Your Otis representative is ready now to help you develop your elevator plans . . . to make preliminary studies and recommendations. Call him today and be assured of the last word in vertical transportation tomorrow.

Otis ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES

In any emergency, your message gets through when your railroad is equipped with a Motorola F-M two-way radiotelephone system. Relying on neither tracks nor wires, Motorola equipment delivers time-saving, money-saving, life-saving orders and directions to railroad crews throughout the nation. This is two-way train talk that counts—yardmaster to switching crew, engineer to caboose, train to train.

The famous "Handie Talkie," the two-way portable radiotelephone set used by our armed forces everywhere, is a notable Motorola Radio *first.* Motorola Radio engineers are also noted for their famous two-way F-M police radiotelephone systems installed in 34 states and in over 1000 communities. For an intelligent appraisal of your own communications problem—**Write today for full details.**

GALVIN MFG. CORPORATION • CHICAGO 51

F-M & A-M HOME RADIO • AUTO RADIO • AUTOMATIC PHONOGRAPHS • TELEVISION • F-M POLICE RADIO • RADAR • MILITARY RADIO

Permanent Timber Bridges

As everyone knows who reads postwar signs, highways and bridges stand near the top of the *must* list of building activity. In this program the use of trusses and other heavy timber items is entirely logical from the standpoints of availability, economy, ease and speed of construction, permanence.

Timber Structures welcomes your inquiry on trusses of wood for moderate span bridge construction. From small bridges on secondary roads to heavy-duty spans on Alaska and Pan-American highways, our design and engineering departments have had a wealth of experience—all of which is at your disposal.

For your ready reference we have prepared a special folder on the application of timber, illustrated by examples from our bridge job files. A copy will be mailed promptly on request. Address your nearest Timber Structures office.

TIMBER STRUCTURES
INCORPORATED
Portland 8, Oregon
New York 17, N. Y.

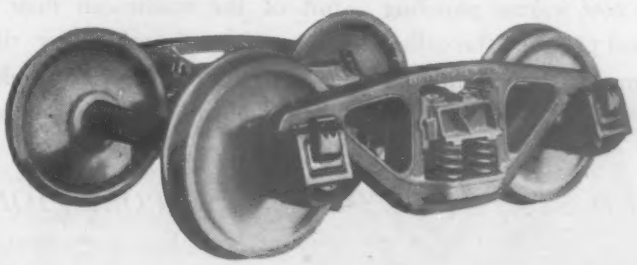
ALASKA HIGHWAY. Permanent timber bridge across the Sikanni Chief River. Three 140' spans for 24' roadway. Designed by U. S. Bureau of Public Roads; prefabricated by Timber Structures, Inc. Pen drawing by Louis C. Rosenberg. A copy suitable for framing free to architects and engineers on Professional letterhead request.

11,000 car sets of the A.S.F. Ride-Control Truck (A-3) are already in service or on order for 23 railroads and car owners for applications ranging from box-express* to hopper cars.

MINT-MARK OF ⬡ FINE CAST STEEL

*These cars often exceed 100 m.p.h. Some have gone over 100,000 miles.

A·S·F *Ride-Control* TRUCK



LONG SPRING TRAVEL · CONSTANT FRICTION CONTROL

AMERICAN STEEL FOUNDRIES

CHICAGO

...and they even de-squeaked the door...

I'd heard how *fast* you could remodel the inside of a building with plywood, but I'd sure never have believed it if I hadn't seen it myself.

Every two weeks now for almost 20 years I've been riding the 1:20 into Crompton, and walking through the station to the Smoking Room to wash up.

The boss used to kid me about it . . . said the best thing about the station was the squeak in the washroom door. He was right, though—the old station wasn't what it used to be ten years or so ago. The walls were all dirty and cracked, and it was getting to be the sort of place you liked to get out of quick.

But the boss is going to change his mind fast the next time he gets to Crompton.

Would you believe it, in less than two weeks they remodeled the *whole inside* of the station? Looks better than the new one down the line at Reynolds Crossing.

I couldn't figure out how they did it so quick, until I got to talking to Joe Wilson, the Division Superintendent.

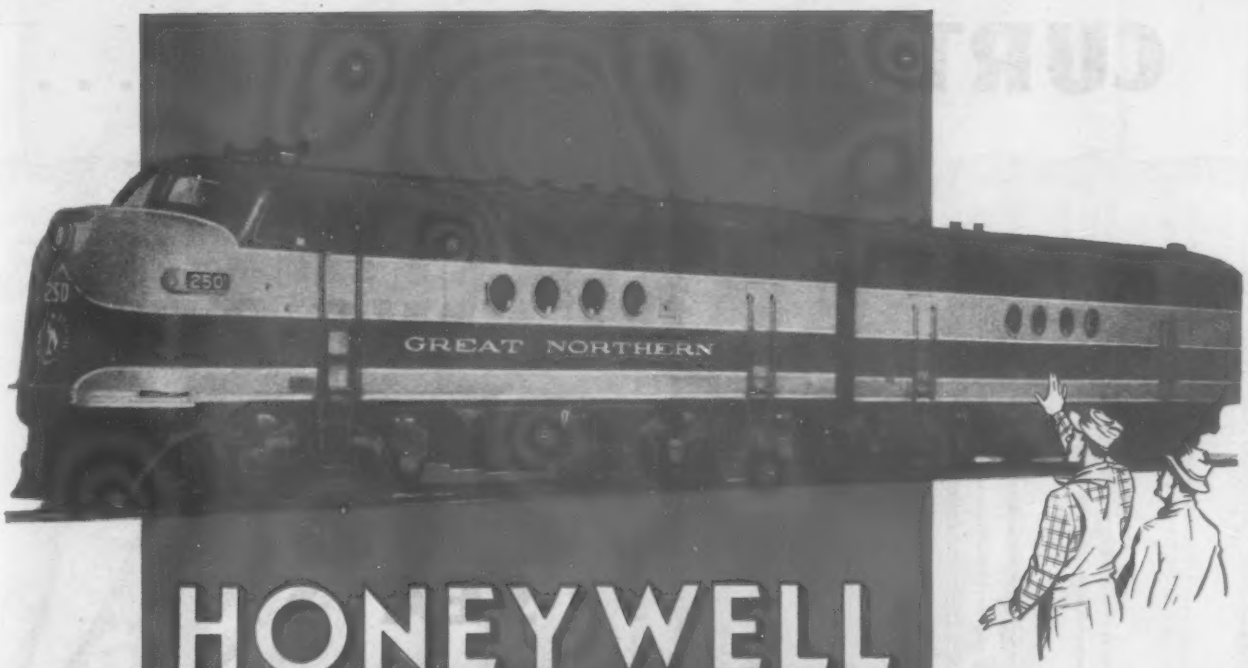
Joe said the new walnut paneling . . . Weldwood plywood, he called it . . . came in big eight-foot sheets, and all they had to do was put it over the old plaster walls. Two men put it up in a couple of days . . . going to do the same thing to three or four other stations down the line, Joe says.

And what a difference those new walls made! Looks like a different station. They fixed up the old seats and put in the new type "flush" doors—and now there isn't a better looking station in my territory.

Why, they even took the squeak out of the washroom door . . . guess they figured they didn't have to take peoples' minds off the dingy waiting room any more.

UNITED STATES PLYWOOD CORPORATION

55 West 44th Street, New York 18, N.Y.



HONEYWELL
SHUTTER CONTROL SYSTEM

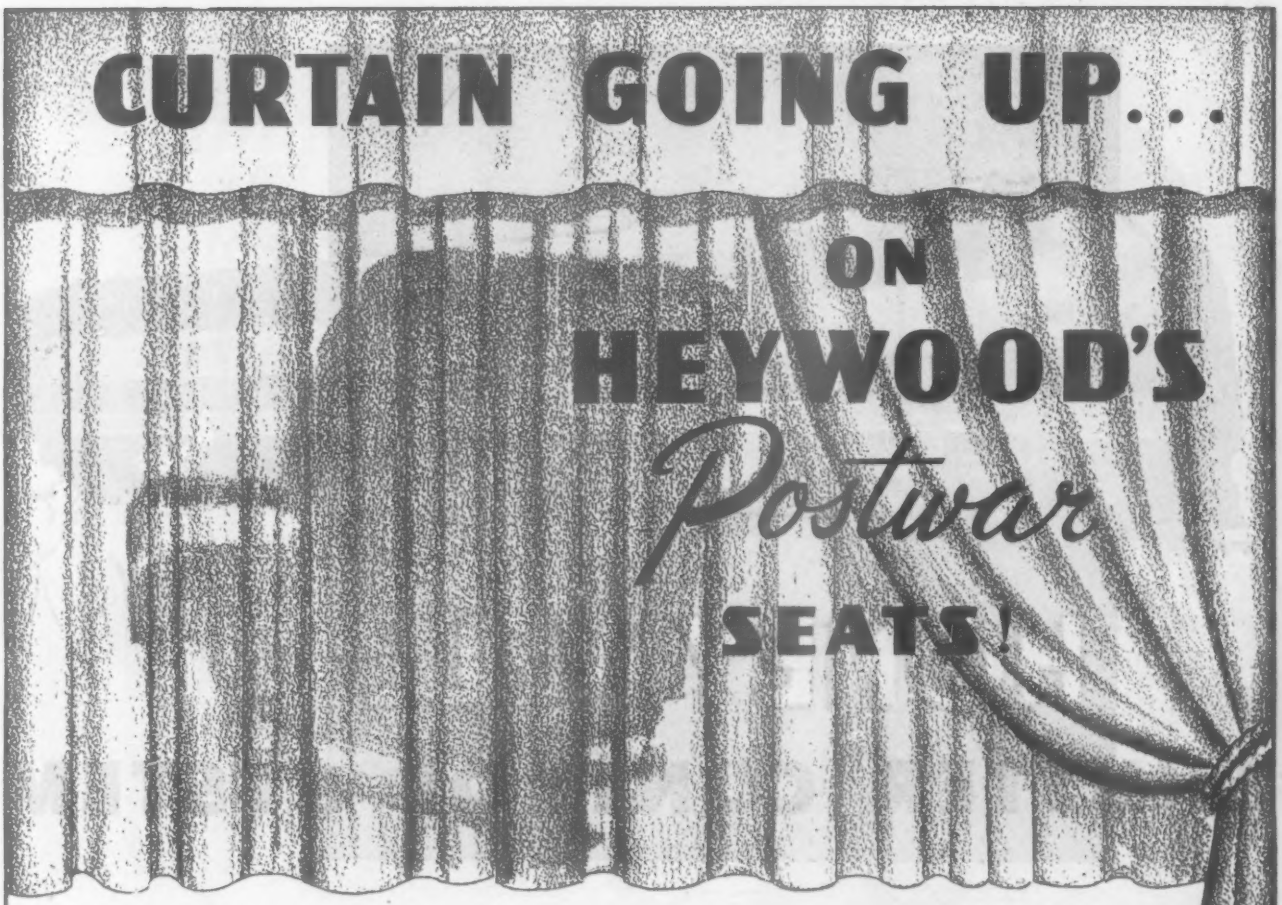
Keeps Diesel Locomotives at Top Efficiency!

Meeting a tough schedule demands an engine operating at top efficiency, *continuously.* An interesting example is the Great Northern Railway's operation between St. Paul and Duluth, Minnesota. The railway's diesel locomotive No. 250 makes one and a half round trips daily in passenger and freight service, running a total of 480 miles. On one of the passenger operations this locomotive runs 160 miles in four hours and makes 24 stops! Contributing to the peak operating efficiency of this locomotive is the recently installed Minneapolis-Honeywell shutter control system which automatically holds engine cooling water at the required degree. Tests have shown that operating costs are lower, maintenance expense is cut and the engine is more responsive to the throttle when engine temperatures are constant. These advantages are being demonstrated by installations operating under extreme climatic conditions in all parts of the country. To get specific information about what the Honeywell shutter control system can accomplish for you, write Minneapolis-Honeywell Regulator Co., 433 East Erie St., Chicago 11, Illinois.

Keep Them Winning—
Buy MORE War Bonds!

MINNEAPOLIS
Honeywell
CONTROL SYSTEMS

CURTAIN GOING UP...



ON HEYWOOD'S *Postwar* SEATS!

THE curtain for Act 1 of "What's New in Coach Seating" is going up within the next few months when Heywood unveils its newest seat designs. That doesn't mean showing you *sketches* of what we *hope* to make! It means showing you *actual samples* which are now undergoing every conceivable test in our engineering laboratory!

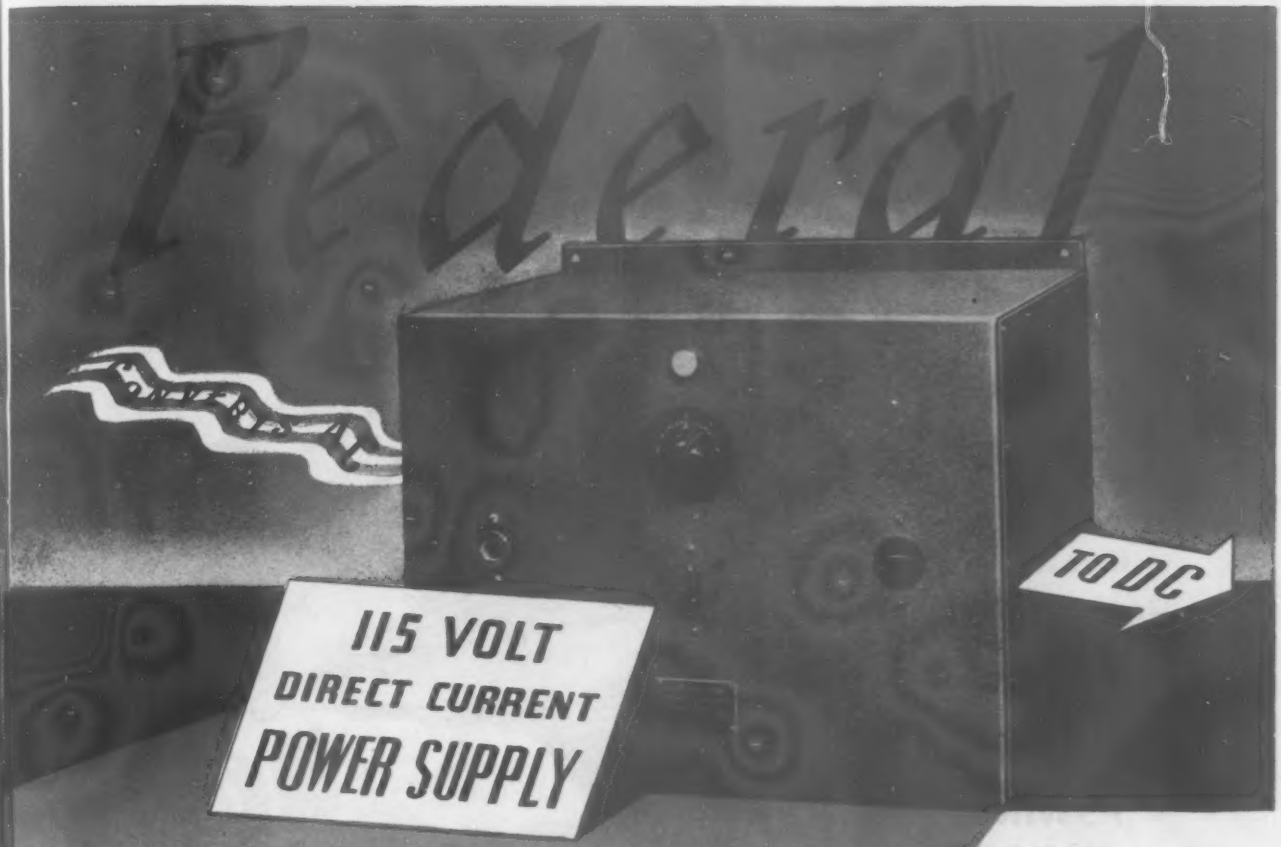
● If you are planning to buy coach seats *now* for postwar delivery, our advice to you is . . . *don't!* Don't write a single order until you have seen the new Heywood designs. You will find they deserve plenty of curtain calls when it comes to smart designing, practical engineering, and satisfying comfort based on a complete understanding of standard measurements!

ARMY E NAVY

HEYWOOD-WAKEFIELD

Established 1826 . . . Gardner, Massachusetts

TRANSPORTATION SEATING DIVISION



FEDERAL POWER EQUIPMENT—well known for long dependable life, low cost, and high efficiency . . . made in a wide range of sizes and outputs . . . for any DC need from any AC source.

- **PUBLIC UTILITIES**—for station DC bus service, floating storage batteries and operating controls.
- **CHEMICAL AND METALLURGICAL**—DC power for refining, electroplating, electro-cleaning and laboratory analysis.
- **METALWORKING**—for operating magnetic equipment such as grinders, chucks, lifts and vibrating hammers.
- **FOOD AND DRUGS**—for magnetic separators, operating packaging equipment and power supply for processing.
- **INDUSTRIAL PLANTS**—for DC motor operation, electric brakes, general testing and generator field excitation.

★

Federal's exclusive CENTER CONTACT Selenium Rectifier discs provide new protection against corrosive atmosphere, are now in Federal Power Supply equipment. FIRST IN THE FIELD . . . . STANDARD FOR INDUSTRY. *Write for Bulletins.*

Federal Telephone and Radio Corporation

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FABREEKA

★SWING HANGER BEARING *Application of* FABREEKA

For Passenger Comfort and Maintenance Reduction on New or Reconditioned Rolling Stock

FABREEKA in the trucks of passenger cars absorbs the high frequency vibration and noise which would otherwise be transmitted through the metal parts of the truck assembly to the car body. High frequency vibration and noise result from the impact shocks encountered in the operation of the car and the rolling of the wheels on the rail.

The absorption of this high frequency vibration, a primary cause of metal fatigue, reduces maintenance.

Thus FABREEKA serves the double purpose of increasing passenger riding comfort and decreasing operating costs.

Proven in the railway field for over 10 years, experience shows that for satisfactory results FABREEKA should be used at these six important points:

1. Coil Springs 2. Center Plates
3. Journal Boxes 4. Buffer Stems 5. Side Bearings
★ 6. Swing Hanger Bearings (under spring plank)

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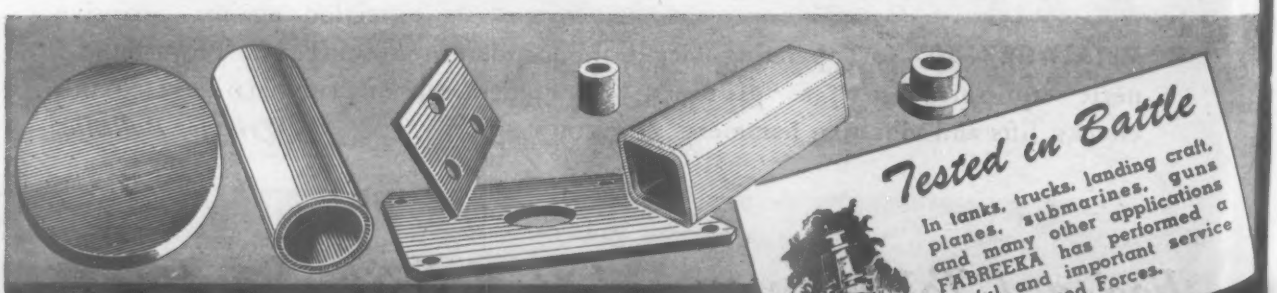
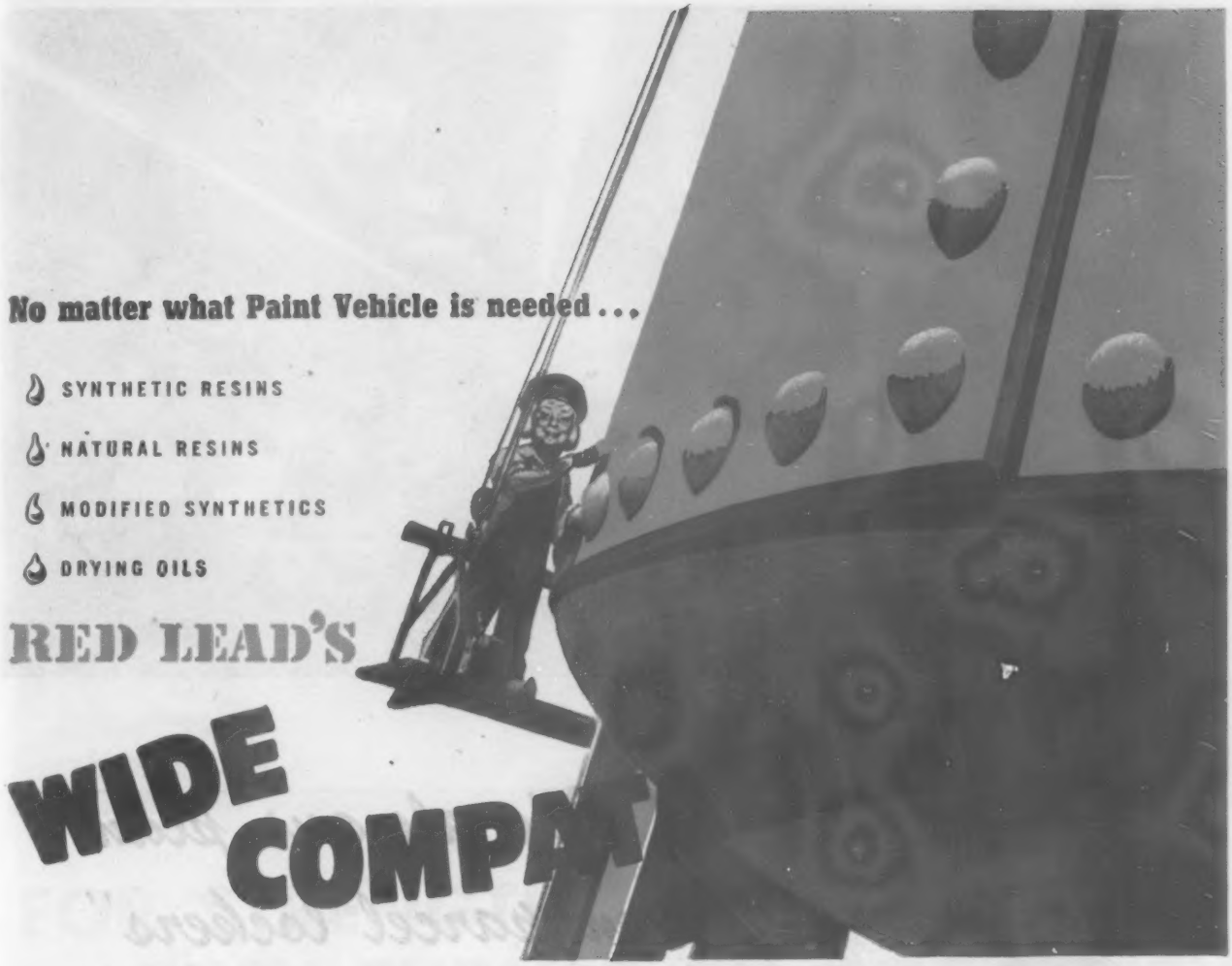
BOSTON 10, MASS.



Tested in Battle

In tanks, trucks, landing craft, planes, submarines, guns and many other applications FABREEKA has performed a useful and important service for our Armed Forces.

Used in RAILWAY PASSENGER CARS, Trucks and Platforms . . . LOCOMOTIVES, Steam and Diesel Electric . . . TRACK CONSTRUCTION, on Bridges, Crossings, Curves, Turntables and Track Scales.



No matter what Paint Vehicle is needed . . .

- SYNTHETIC RESINS
- NATURAL RESINS
- MODIFIED SYNTHETICS
- DRYING OILS

RED LEAD'S WIDE COMPA

makes its Extra Rust Protection Available

The fact that Red Lead is generally accepted throughout industry as the standard metal protective paint indicates two things:

1. *That it must be widely adaptable to various service conditions.*
2. *That it must offer something* EXTRA *in the way of rust prevention.*

Red Lead's versatility is due principally to its compatability with the wide range of vehicles needed to answer present-day service demands. It can be used with practically every type of paint vehicle on the market—synthetic resins, natural resins, drying oils, and combinations of these.

Thus, paints for any metal protective purpose can be formulated with Red Lead. Since almost any paint vehicle can be used with Red Lead, a broad range of drying requirements can be met—anything from the normal drying primer used on structural steel to the quick-drying paint essential to present-day production schedules.

Why Red Lead means Extra Rust Protection

Red Lead has the property of counteracting acid conditions, recognized as accelerators of rust. In the presence of various acids, Red Lead forms insoluble lead salts at the approximate rate at which the acids are supplied.

This is true whether the acid originates from acid-forming environments, such as gas, smoke and moisture in the atmosphere, or from the decomposition of the vehicle. Thus, a rust-inhibiting condition is maintained with a Red Lead paint.

Red Lead also forms an adherent protective shield which prevents electrochemical action, another prime cause of rusting.

Specify RED LEAD for All Metal Protective Paints

The value of Red Lead as a rust preventive is most fully realized in a metal paint where it is the only pigment used. However, its rust-resistant properties are so pronounced that it also improves any multiple pigment paint.

No matter what price you pay, you'll get a better paint for surface protection of metal, if it contains Red Lead.

Write for New Booklet—"Red Lead in Corrosion Resistant Paints" is an up-to-date, authoritative guide for those responsible for specifying and formulating paint for structural iron and steel. It describes in detail the scientific reasons why Red Lead gives superior protection. It also includes typical specification formulas—ranging from Red Lead-Linseed Oil paints to Red Lead-Mixed Pigment-Varnish types. If you haven't received your copy, address nearest branch listed below.

* * *

All types of metal protective paints are constantly being tested at National Lead's many proving grounds. The benefit of our extensive experience with paints for both underwater and atmospheric use is available through our technical staff.

NATIONAL LEAD COMPANY: New York 6, Buffalo 3, Chicago 80, Cincinnati 3, Cleveland 13, St. Louis 1, San Francisco 10, Boston 6 (National-Boston Lead Co.); Pittsburgh 30 (National Lead & Oil Co. of Penna.); Philadelphia 7 (John T. Lewis & Bros. Co.); Charleston, W. Va. (Evans Lead Division).

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This is the key to safe, quick, easily accessible, self-service parcel checking. Years of research and experience by the American Locker Company have produced a lock and key that are the very "heart" of a locker, assuring the public of the safety and protection of their luggage and parcels at all times.

THE LOCK IS YOUR GUARANTEE
THE KEY IS YOUR CHECK

ARCHITECTS and planning engineers regard parcel checking lockers as an integral part of modern transportation when they are laying out new stations or renovating old ones. Widespread use and demand by the general public has made self-service checking an important part of a station's facilities.

Using smart, modern equipment designed to harmonize with the new trends in transportation, architects and planning engineers place lockers at a point where eye appeal and service meet. Thus they avoid creating congested areas and provide the public with maximum service in minimum space. American Locker Service engenders public goodwill and adds to the income of the transportation company.

American Locker Company consultants will confer on checking problems and make surveys and recommendations without obligation.

AMERICAN LOCKER COMPANY, Inc.

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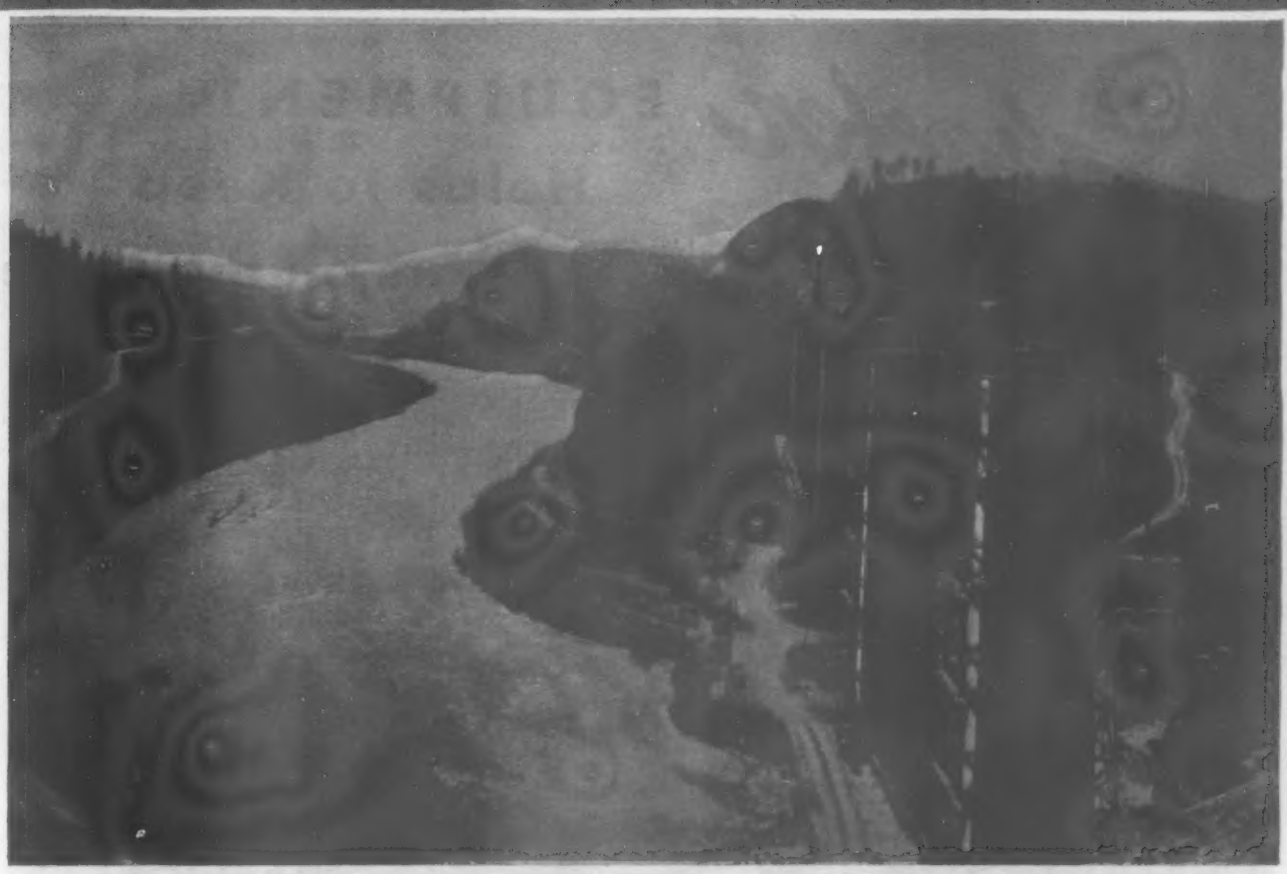


Southern Railway Bridge, Almond, N C. Designed and built by T V A

FOR STRENGTH . . . DURABILITY THEY TURNED TO POZZOLITH

THERE were three problems in building the above bridge piers, which now are largely submerged — workability, strength, durability.

Experience in millions of yards of concrete has proved that Pozzolith was the practical, economical answer to all because Pozzolith through its action of cement dispersion greatly increases the efficiency of cement and lowers water-cement ratio 12-15%.

Recent findings of the Nation's highest testing authority show that Pozzolith Concrete exposed to freezing and thawing in fresh or salt water is 400-500% more durable and has greater strength than plain concrete. These and other tests made in this exhaustive investigation prove that Pozzolith marks a new era of concrete performance.

The trend in concrete construction is toward Pozzolith because cement dispersion assures faster construction, vastly improved concrete, with lower construction and maintenance costs.

THE MASTER BUILDERS COMPANY

CLEVELAND 3, OHIO · TORONTO, ONTARIO

The Trend Is Toward . . .

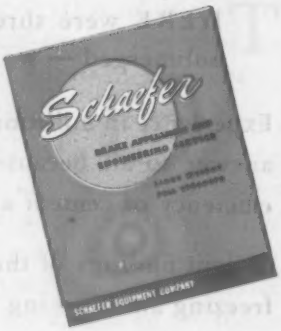
POZZOLITH

CEMENT DISPERSION

Schaefer EQUIPMENT Helps to Keep Cars on the Move

EVERY serviceable railroad car in America today is doing its part in the victory effort—traveling thousands of miles per month to speed the movement of freight.

Schaefer "light weight—full strength—plus" Brake Appliances are standard on most roads. Because of their rugged dependability, they are playing no small part in helping to keep rolling stock rolling, and in setting up ever-increasing mileage figures.



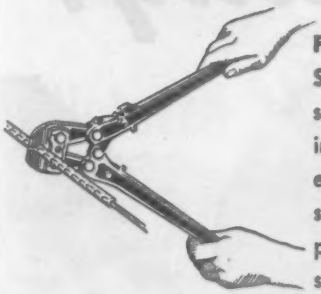
Write today for a copy of the new Schaefer Catalog.

Schaefer EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, PA.

DROP-FORGED FOR LIGHT WEIGHT, HIGH STRENGTH, LONG LIFE AND SAFETY

TOOLS { FOR RAILROAD POLE-LINE WORK



FOR FASTER, SURER SPLICING — Nicopress sleeves and No. 51 splicing tool save time, reduce expense, and produce strong, tight, moisture-proof joints. One man can splice the wire — on the ground or on the poles. Each splice develops the full rated strength of the conductor.

PLIERS FOR ALL PURPOSES — Linemen favor Klein's pliers because of their firm grip, handy shape, powerful leverage, and keen cutting knives. GRAYBAR offers all types: long-nose, chain-nose, curved-nose, duck-bill, sleeve, cord-tip-closing, side-cutting, oblique-cutting, and end-cutting.

CLIMBERS THAT COMBINE COMFORT WITH SAFETY — Klein's No. 1939 linemen's climbers weigh only 2½ pounds per pair — less than ordinary styles. Yet they are amply strong, and every one has been tested. GRAYBAR also supplies Klein's climber straps, ankle straps, climber pads.

SUPERSTRONG SAFETY STRAPS — "Klein-Kord" safety straps provide utmost protection. Each of six plies of specially woven, long-staple cotton yarn is laid in rubber and vulcanized. Snaps and buckles are galvanized, drop-forged steel, individually tested to withstand a 1500-pound pull.

These are some of the specialized tools Graybar can supply to help you save time on maintenance or construction of communications lines. For complete information about tools, poles, crossarms, anchors, pole-line hardware, or other outside construction supplies or equipment, call the Graybar Railroad Specialist near you. He can give you experienced aid in selecting and applying the best items for your particular railway needs. *Graybar Electric Company, Graybar Building, New York 17, N. Y.* 4543

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IN OVER 80 PRINCIPAL CITIES

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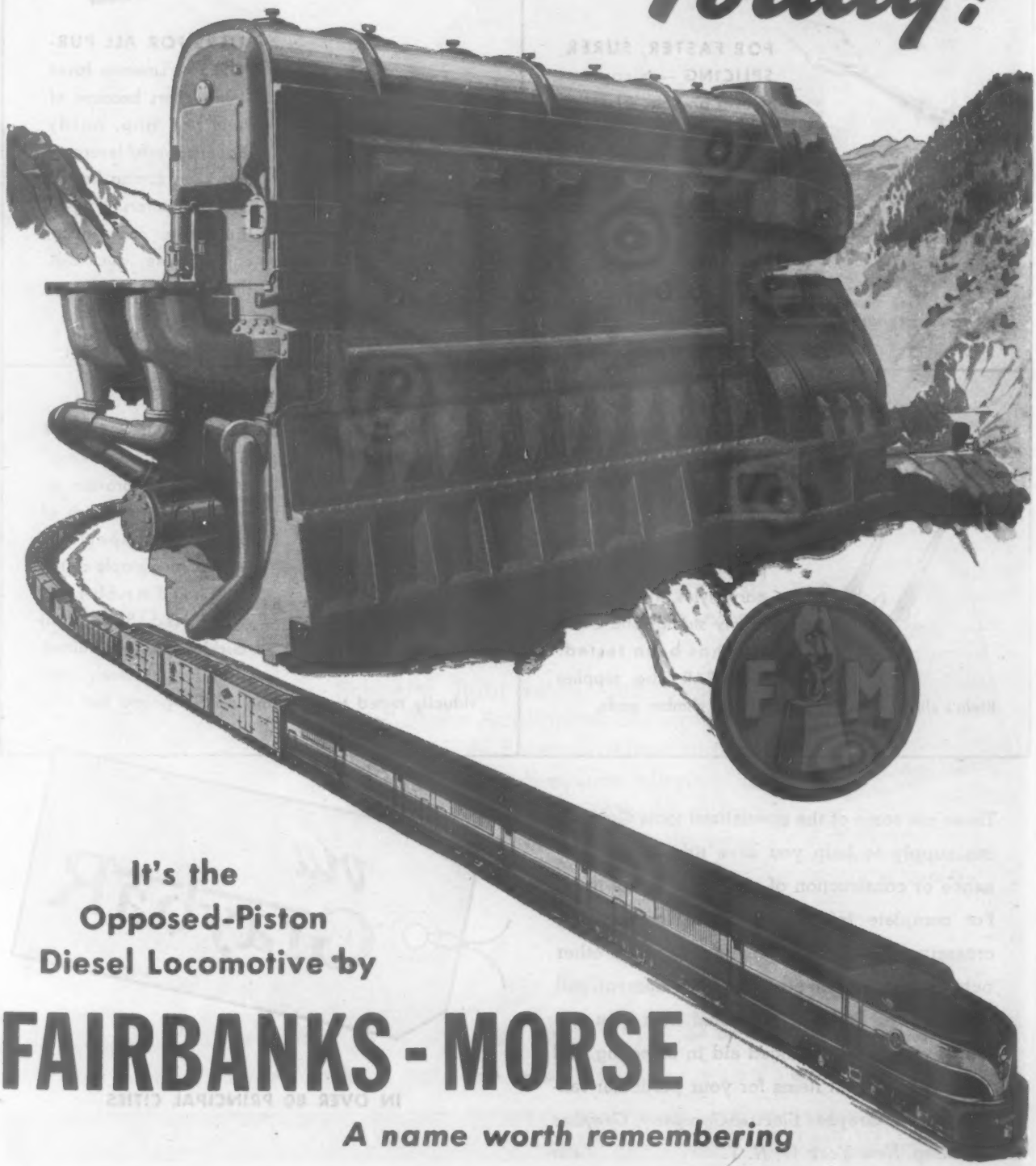
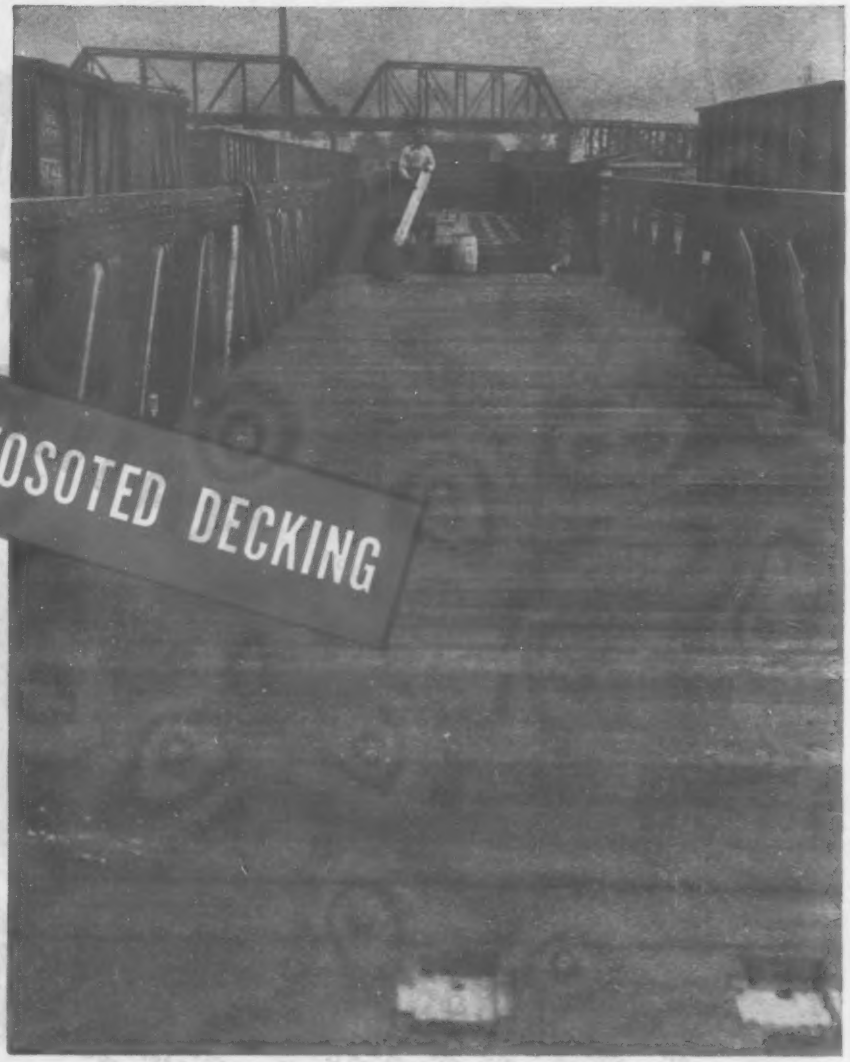


It's the Opposed-Piston Diesel Locomotive by

FAIRBANKS-MORSE

A name worth remembering

14 years of service from PRESSURE-CREOSOTED DECKING dictated the "specs" for this replacement



When this car—built in 1930—rolled in for its *first deck repairs* last year, there wasn't any debate or discussion as to what material would be used for replacement. The original pressure-creosoted decking has lasted almost three times as long as the average service from untreated decking, so naturally pressure-treated wood was installed.

This service isn't unusual by any means, but right in line with other reported experience. One western road decked 287 flats with pressure-creosoted decking back in 1928. The average life computed from replacements was 12.41 years, as compared to a conservative estimate of the life of untreated decking of 4 years—again an approximate 3-to-1 ratio.

Generally the extra cost of pressure-treating decking is made up in the first 18 to 22 months of added life, and each additional year of service is "velvet." And remember—outside of the savings feature, the use of pressure-creosoted decking is one of the best ways of keeping badly needed cars out of over-worked shops and on the rails. May we serve you?

KOPPERS COMPANY, INC.—WOOD PRESERVING DIVISION

PITTSBURGH 19, PA.

KOPPERS

Buy War Bonds—and Keep Them!

THE INDUSTRY THAT SERVES ALL INDUSTRY

DAVENPORT LIGHTER DIESEL SWITCHERS are strictly 1-A for POST-WAR RAILROADING

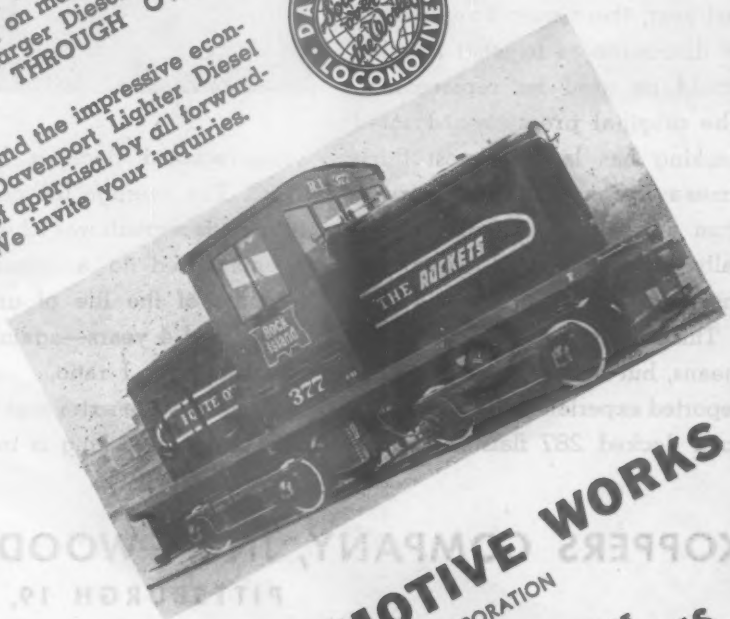
WAR'S END will mark the close of an era from which the American railroads will emerge with a never-to-be forgotten record of proud accomplishment—despite too few men and aging equipment.

Ahead, loom new and sobering responsibilities. Technical advances must be given the green light. Competitive rivalry with other modes of transport will call for managerial and operational skills of the highest order. Efficiency, based upon enlightened economy, will hold the spotlight.

Into this picture comes the logical adoption of Davenport Lighter Diesel Switchers—44-ton Diesel-Electric and 30-ton Diesel Mechanical—for switching and branch line duty on many locations where heavier steamers or larger Diesels are a major source of WASTE THROUGH OVER-POWER.

The standard of service and the impressive economies made real by Davenport Lighter Diesel Switchers are worthy of appraisal by all forward-looking executives. We invite your inquiries.

Davenport 30-Ton Diesel-Mechanical Switcher



Davenport 44-Ton Diesel-Electric Switcher

Complete Information Will be Sent to Inquiring Railroad Executives

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A DIVISION OF DAVENPORT BESLER CORPORATION
DAVENPORT, IOWA, U.S.A.

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for STEEL and CONCRETE...

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Bridges, piers, tanks, smoke chambers, abutments and piling ...they all need the flexible armor protection that Flintkote offers.

This asphaltic-base coating resists cinder abrasion, corrosive locomotive blast, acid-forming seepage and weather. It *seals out* corrosion, and puts a tough, resilient surface between the structures and flying cinders. The base materials *cannot* erode when protected by Flintkote.

This elastic armor is easy and quick to apply... and one "plating" lasts for years. It will not sag or flow under heat or crack from cold. The cost is truly economical.

Behind Flintkote Products are more than 40 years of experience ... painstaking development work to assure that each product bearing the Flintkote name is more than adequate for the job it was designed to do. Write for complete information.

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Rollers Roll

AND THERE'S SPEED WITH SAFETY

If past performance is to be your guide in the selection of new equipment, you will find in the records an amazing history of serviceability on the part of Hyatt Roller Bearing Journal Boxes.

Not only during the extreme wartime demands on American transportation but throughout the whole past decade Hyatt Roller Bearing Journal Boxes on the cars and Diesel locomotives of streamliners have contributed to smoother starts, comfortable riding and safety at sustained high speed . . . always with a minimum of maintenance.

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HYATT ROLLER BEARING RAILROAD JOURNAL BOXES

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

Vol. 118 — May 26, 1945 — No. 21

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Finds Class Rates Favor the North 937

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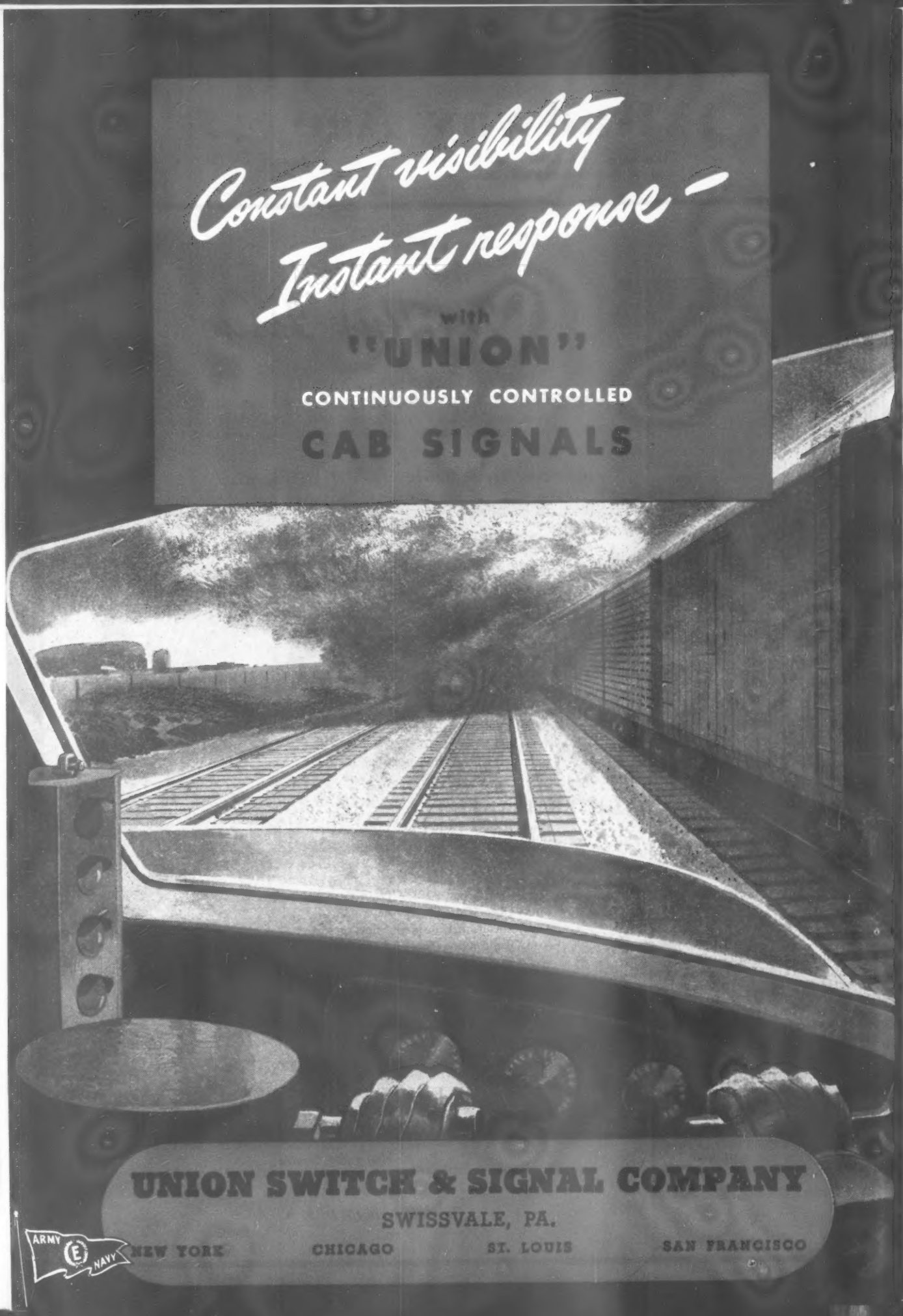
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The Week at a Glance

RATE DISORDER: The Commission has called for a change in class rates so sweeping in its scope that shippers and carriers alike are bewildered and aghast as more and more revolutionary results become apparent with each additional hour of study they give to the document. The decision is reviewed in an article herein, which also reports the opinions on it of two of the nation's leading shippers. It is worthy of special notice that one of these shippers, A. W. Vogtle of Birmingham, doesn't believe the effect on the South is going to parallel very closely the hopes of the protagonists of the revision.

●

PENNSYLVANIA 4-4-4-4: A detailed description of the characteristics and performance of the Pennsylvania's "T-1" type locomotive, a 4-4-4-4, by Chief Engineer Ralph Johnson of Baldwin, is one of the feature articles in this issue—derived from the noteworthy paper presented by Mr. Johnson at last week's meeting of the New York Railroad Club.

●

BIDDLE WALKS THE PLANK: Exultation at the discomfiture of a persecutor is, possibly, not to be ranked high among the major virtues. Nevertheless, it may be suspected that there are a lot of transportation people—and many other loyal Americans too—who, at least momentarily, greeted the news that Francis Biddle had been fired from the attorney-generalship with feelings not dissimilar to those of European Jews when they saw the pictures of Hermann Goering in captivity. As far as Biddle's bedevilment of the transportation industry is concerned, however, the old adage that the evil men do lives after them will probably once again evidence its verity—at least nothing to the contrary has been officially hinted yet.

●

NAZIFYING AMERICA: The British collectivist, Sir William Beveridge, has published a book, widely touted in this country by New Dealers and the pink book-reviewing fraternity, on government "planning" to assure high-level employment. The leading editorial herein shows that the employment ratio (97 per cent of employables), which Beveridge and his U. S. imitators insist can be attained only by government's largely taking over the economy, is the ratio we had in the U. S. 1900-29 before the government got the ambition to be the people's master. This is to say that it obviously isn't high-level employment these schemers are seeking, but to perpetrate bureaucracy in the seat of power. If high-level employment and general prosperity were their true goal, they would be striving to establish the conditions which experience has shown will produce such employment and prosperity.

●

WHY FOREIGNERS ADVISE US: Probably no major nation in history ever accepted so much intimate and detailed advice from abroad on the conduct of its internal affairs as this country has done under the New Deal from such aliens as Harold Laski, Lord Keynes, and now this man Beveridge. Add to the influence of these eminent Britons that of the strategically placed domestic semi-officialdom whose views and actions mirror perfectly the "party line" as established in Moscow, and a ratio of foreign influence over American affairs of disturbing magnitude is revealed. Obviously, these worthy outlanders can scarcely be expected to be motivated primarily by zeal for this country's welfare. President Virgil Jordan of the National Industrial Conference Board suggests a plausible explanation of the lively effort of Europeans to direct American policy, namely, that Europe is totalitarian-collectivist already, or rapidly heading that way, and that farsighted Europeans realize their socialized countries would have no chance whatever in competing with an economically free America. They must seduce us into socialism or run the risk of losing their own.

○

N. K. P. FINANCES REPAIRED: The thoroughgoing overhauling which has been administered to the financial structure of the Nickel Plate is given a detailed review in this issue. All early maturities, all divisional mortgages, and all note issues have vanished. By the end of the summer, annual interest charges will be trimmed down to less than $4 million (exclusive of charges on new equipment trusts shortly to be issued)—a reduction of almost 50 per cent in less than two years. The article also sets forth N. K. P.'s relations to C. & O. and W. & L. E., outlines its contingent liabilities, and reviews its traffic and operating characteristics.

●

M. OF W. MEN NEED HELP: It makes trouble for the operating department to hold trains off of main tracks for extended periods to enable maintenance forces to do a maximum of work without interruption—but, on the other hand, it makes more trouble for the operating department to put up with slow orders and derailments which result from poorly maintained track. An editorial in this issue reviews the problem of track maintenance from the standpoint of the welfare of the railroad as a whole, and bespeaks as much assistance to the maintenance department from the operating officers as the overall good of the whole railroad.

●

JOHN LEWIS WINS ON W. MD.: Locomotive engineers, firemen and hostlers on the Western Maryland have by a majority vote chosen a branch of the United Mine Workers as their organization for collective bargaining.

●

TRUMAN BRIDGE: In our news pages will be found a brief report on the dedication this week of the new Milwaukee-Rock Island Bridge over the Missouri at Kansas City, and a picture of the structure, which has been named for President Harry S. Truman. Regular traffic on the bridge is scheduled to begin on June 1, considerably facilitating the entrance by the two participating carriers into the metropolis once famed for its steaks.

ARMY TO RELEASE R.R. MEN?: The labor-management policy committee of the War Manpower Commission has recommended that the Army "screen and demobilize" soldiers who were railroad employees, to enable them to resume their regular jobs and, thus, relieve the continuing severe shortage of experienced labor on the railroads.

●

EUROPE'S TRANSPORT: It will take Europe a generation to get its transportation back to the shape it was in before the shooting started—so Major General Frank Ross, chief of transportation in the European theater, told newspaper men in Washington on May 23. Our Transportation Corps soldiers, he said, can leave Europe as soon as we get the Army out of there—except, of course, a sufficient number to provide for the army of occupation. The point is that American transportation men are not going to have to stay abroad to nurse Europe's transportation back to health. Other revelations of General Ross' interview are reported in our news pages.

●

ALLOCATIONS: The transportation industry has been allotted 1,339,588 short tons of carbon steel for the third quarter—87 per cent of the O. D. T.'s requisition, and the most generous ration yet handed out—details in our news pages.

●

LOADINGS FORECASTS: In the fourth quarter of 1944, advance estimates of carloadings by shippers' advisory boards came within 3.7 per cent of a perfect record. This was the country-wide average. The Pacific Coast and Central Western boards came closest to the bull's-eye with forecasts less than 0.5 per cent off; and the Northwest board was farthest from the mark, having overestimated its loadings by 15 per cent.

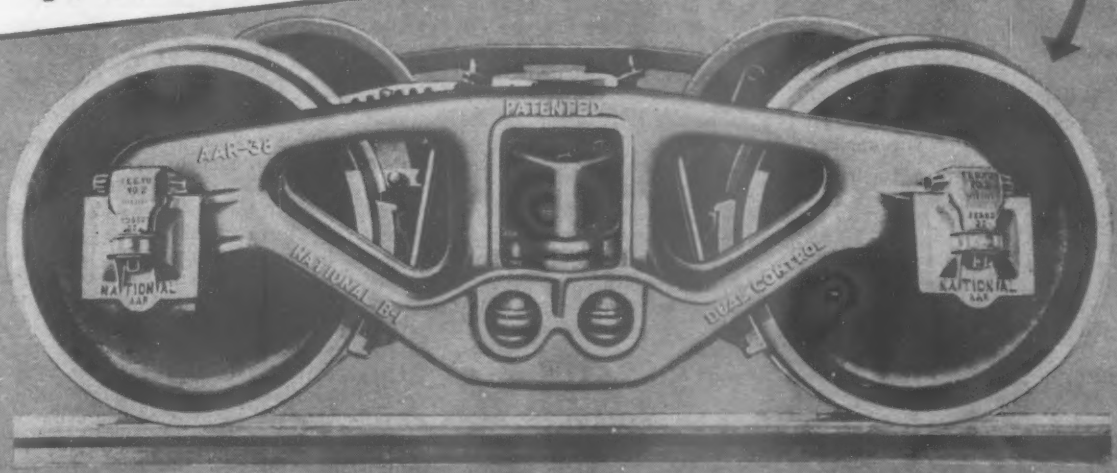
●

OIL AND ECONOMIC FREEDOM: A leader in the petroleum industry, J. Howard Pew, made a noteworthy speech last week in defense of economic freedom against the political effort to place all business activity under government control or direction. An editorial in this issue, while praising Mr. Pew's able oratorical efforts, reminds him that a large part of the socialistic warfare on private enterprise consists, not of regulatory action or "regimentation," but of expenditure of public funds in inequitable competition with private investment. Such public expenditures are, usually, not opposed by the oil and automotive industries, but are actively fostered by them.

●

PECOS BRIDGE: The Texas & New Orleans' wrought-iron viaduct spanning the Pecos gorge at a height of about 300 ft.—which was the world's highest bridge when it was built in 1891—has been replaced by a modern structure, described and illustrated in this issue. The old bridge had been strengthened and was holding up pretty well, but it required constant attention.

The Truck For Smooth, Safe Riding



No Spring Plank
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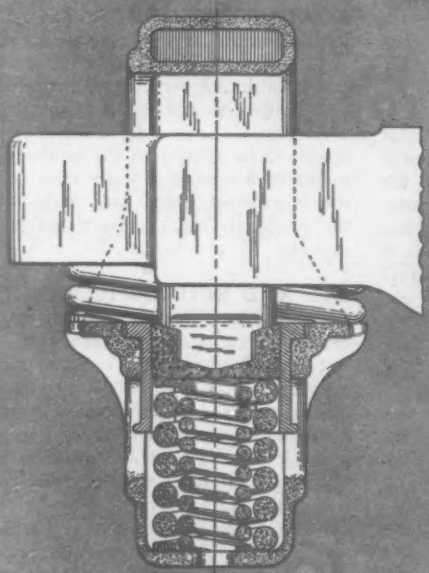

Section thru Control Unit

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RAILWAY AGE

Efficiency FOR VICTORY

"Full Employment"—or National Socialism?

The demand for "full employment" after the war is being made the basis for the promotion of numerous government policies of the greatest importance to every industry and business and to all the people. These policies range all the way from the creation of a government monopoly of all economic activity—i.e., national socialism—to a government enforcement of competition in transportation which would make impossible continued successful private management of the railroads under regulation by the Interstate Commerce Commission.

The most important pending question about post-war "full employment" is not whether private enterprise can provide it. The most important question is whether government and labor unions will let private enterprise provide it.

We have at last a definite estimate by an advocate of a government planned economy of what "full employment" would be. Sir William Beveridge, in his recent book, "Full Employment in a Free Society," advocates almost exactly the same policies to establish a planned economy that are favored by our New Dealers. And he estimates that "full employment" in Great Britain would be employment of 97 per cent of the available labor force. If that would be "full employment" in Great Britain it would be "full employment" here.

But why assume that so much government planning and spending will be required to provide "full employment?" Sir William Beveridge had right in front of him when he wrote his book statistics showing that in the thirty years 1900-1929, inclusive, employment in the United States averaged *97.44 per cent* of this country's available labor force. How do we know this? For the purpose of showing the extent of unemployment in the United States during the recent depression years, Sir William took statistics from tables appearing on pages 115 and 117-118 of the "Economic Almanac, 1943-1944," compiled and published by the National Industrial Conference Board; and similar statistics for the years 1900-1929, inclusive, appear in *the very same tables* in the "Economic Almanac."

Why did Sir William not even mention these statistics? Obviously because they prove that what Sir Willam concludes *would be* "full employment" *after the war* actually *was* provided in this country for thirty years before the depression; and this without any of the government planning and spending which Sir William and the New Dealers contend wll be necessary after the war.

The foregoing facts illustrate and emphasize something of great importance. This is, that "full employment" is not the true goal of Sir William Beveridge and of those in this country who advocate the same policies that he does. If "full employment" were their true goal, they would not deliberately and dishonestly ignore facts showing that we long averaged "full employment" in this country before the depression and that private enterprise was the means by which it was attained and maintained. They profess to advocate national socialism as a *means* of providing "full employment," whereas plainly, not "full employment," but national socialism, is their true goal.

J. Howard Pew Defends Economic Freedom

At a meeting of the National Industrial Conference Board in New York on May 17, J. Howard Pew, president of the Sun Oil Company, made a forceful speech on the subject of "American Business in a Planned World." The meeting was "off the record" and Mr. Pew may not, consequently, be quoted directly, but no confidence is violated by our revelation that Mr. Pew spoke in opposition to bureaucratic planning of economic life. His speech was, in fact, an able exegesis of private enterprise and economic freedom, following in the main the analysis of Friedrich Hayek in his "Road to Serfdom."

Mr. Pew devoted his principal attention and attack to the governmental invasion of the economy by various regulatory and other administrative controls over business; he did not have much to say about governmental envelopment and siege of private economic enterprise by the device of expenditures of public funds in a manner to inhibit the further investment of private capital.

This partiality of emphasis by Mr. Pew seems unfortunate, from a standpoint of effectiveness. Against the encroachment of government upon economic freedom by the method of regulation and bureaucratic interference, Mr. Pew is in a position to do little more than orate and inveigh. Against the encroachment of government by investments of public funds which are made to compete inequitably with private investment, his position is such that he could act directly to thwart the enemy, and not merely exhort others to do so.

This follows because Mr. Pew is a leader in the oil business. As such, his opinion would carry great weight in determining the policy of that industry toward large expenditures of public funds for the development of toll-free and tax-free highways, waterways and air transport facilities—in competition with private and tax-yielding investment in the railroads. If an important part of the oil industry should lift its voice against public expenditures for transportation facilities—except to the extent that fully compensatory charges and taxes are levied upon users, exactly as if the properties were in private ownership—there would doubtless be a prompt mitigation of this principal force which is impelling all transportation in the direction of eventual socialization. The oil industry, quite apart from opposing such socializing expenditure of public funds for transportation facilities, is usually found among its active proponents.

Every step that government takes toward greater control or operation of economic services finds some business support. The oil and automotive industries are valiant opponents of "regimentation" when governmental bureaucrats attempt to control their labor, price and production policies—but their guard against the socialist enemy is down when he comes bearing gifts in the form of appropriations which hold out the bait of artificially stimulating the sales of these industries. Similarly, in T.V.A. territory, scores of "private enterprisers" have come to look upon socialized electric power with favor, because they find that, thereby, they get a valuable service at less than its actual cost.

When all the individual instances of "regimentation" and socialization—favored in detail by business groups which reject such things in the abstract—are added together, the result is a sum-total of socialism and statism of impressive magnitude; and that is why the nation has advanced so far along "the road to serfdom." Unless private enterprise and economic freedom constitute a principle and an objective for the promotion of which their protagonists are willing to make some sacrifices, then the defense against statism and socialism must continue its steady and disheartening retreat.

Eloquence in defense of free enterprise is not to be deprecated, but it is a poor substitute for action.

Off to the Races

The elimination of the ban on horse-racing is a rather startling action at this time and one that is hard to explain on any reasonable grounds. We are, like Mr. Vinson, exponents of the value of good, clean sport (if racing could, by any stretch of the imagination, be included in this category) but how he justified his action now is difficult to see.

All the troops returning from Europe on furlough before proceeding to the Pacific will require a transcontinental haul. With the circuitous routing necessary to get these boys to their various homes and thence on the way westward, the average railroad trip of each will be over 4,000 miles and when this is multiplied by the staggering number of furloughees, the result is an astronomic total of passenger-miles. The government "experts" have used this prognosis to set up howls as to the necessity for some rationing or priority plan to limit travel. Meantime, they are apparently undisturbed at the huge number of gamblers, jockeys, trainers, exercise boys and touts who will be using the railways to travel from one race meeting to another on railway passenger trains.

So far, also, no outcries have been heard from the O. D. T. as to this additional passenger burden or the loading down of already overloaded passenger trains with extra cars for the transport of horses. Even if the answer is given that most horses move by truck, the O. D. T. still owes an explanation as to how this jibes with its program for conserving tires and gasoline.

It is also difficult to see how permission to hold race meetings can be justified when all other meetings to be attended by 50 or more persons have been prohibited. May we say that each race meeting requires the travel of far more than 50 persons, just in case the O. D. T. has not already been appraised of that fact?

Eminent churchmen have already been complaining lustily as to the alleged interference of O. D. T. with religion because of canceled meetings. The conference between Colonel Johnson and the reverend gentlemen, when the latter discovered that church meetings are banned while race meetings have official sanction, should be worth going miles to attend. The question as to the relative value of improving the breed of thoroughbreds as against improving the souls of human beings will take a bit of answering.

The resumption of racing and the attendant burdening of passenger trains at this time seems a particularly inept and inappropriate gesture on the part of the racing fraternity itself. It can bring nothing but

further opprobrium, particularly when the boys en route from Europe to the Pacific theatre discover that their furlough time at home is being shortened because railroad accommodations they would otherwise occupy are in the hands of some tout or his lady friend.

Freight Cars Needed Now

Twenty-seven of thirty-eight railroads, each owning 10,000 or more freight cars, reported a less favorable bad-order position on April 15 than prevailed on the same date one year ago. Two showed no change in percentage and nine were in a better condition than a year ago. Of these nine only four were in a substantially better position with bad-order ratios which have remained consistently lower since the first of this year than they were in 1944. Only one was among the ten largest owners of freight-car equipment and since January this road's average condition is no better than it was in 1944.

We are now paying the price on the railroads for the material shortages of late 1942 and 1943; for the manpower shortage which began to be critical in 1943 and continues so; for the failure of material-allocating agencies to recognize that, as they demanded more from the railroads in the way of freight movement of raw materials and fabricated products, the key to success was a continuing dependability of railroad transportation; and to two things for which the railroads were themselves responsible. One was an evident failure to "sell" material-allocating boards on their true needs; the other, the failure to allow a progressive deterioration in their freight cars to become statistically evident. The bad-order ratio maintained during 1943 and 1944 averaged 2.5 per cent and there never was a time during these years when such a figure was mechanically or structurally justified on the basis of pre-war car-maintenance standards. Even allowing for relaxations in standards required by the war, the accuracy of the figures in reflecting usable car conditions is questionable.

These two failures are not unrelated, the second probably constituting the main reason for the first. Allocating agencies chose to reduce railroad demands for additional equipment and thereby forced increased utilization of existing equipment. It was hard for the railroads to make persuasive demands for replacement equipment when, by their own recorded figures, their cars were in good condition. As matters now stand, there is an accumulated deficit of 185,000 freight cars which, according to Col. J. Monroe Johnson, director of the Office of Defense Transportation, should have gone into service on the American railroads since 1941. Every concession has been made to keep cars in service and the bad-order figure can no longer be held down. It was 2.6 on April 15, 1944; it was 3.2 on April 15, 1945. It will go much higher.

An immediate need is for a realistic approach to a situation which by the end of this summer might involve the railroads of this country in a transportation crisis reminiscent of the previous war. New cars are needed now; limitation orders on construction should be lifted immediately and, so far as is at all practicable, ordering railroads should be permitted to take advantage of modern technological improvements in the cars which they wish to buy. Responsible estimates of military and civilian authorities foresee a continuing traffic during 1945 which will equal or exceed that of 1944. Meanwhile, the War Production Board announces that we cannot look for deliveries of more than 11,000 freight cars in the final quarter of this year. At least one-third of these and probably one-half or more will be required to replace cars dismantled or destroyed. With a prospective increase in the bad-order situation, the last quarter of the year will see a net deficit in the supply of serviceable cars.

More new cars are the only answer. There is talk now of exporting cars in 1946, according to arrangements being made by the Foreign Economic Administration, to the number of 98,000. Any honest appraisal of the car situation and the physical condition of car inventories on the railroads of the United States makes this concern about the needs of foreign nations seem ridiculous. It is as important to them as it is to us that we win the war with Japan and have a transporta-

If It's a Railroad, Give It the Works

tion system to support the war effort and our later civilian economy. Our railroads need cars now, and we should not be too concerned about others' railroad needs until we have satisfied our own needs to the point where our railroads are assured of the means to function efficiently.

Why and How M. of W. Officers Need Co-operation

While the coming of V-E Day carries implications of ultimate relief for the maintenance-of-way forces from some of the many problems that have beset them since the war began, the problems that will confront these forces in the months immediately ahead threaten to be more difficult than at any time to date. In the face of this threat, those in charge of roadway and track, if they are to discharge their responsibilities successfully, must have the co-operation of all other departments, and especially the operating department, to the fullest extent consistent with the ultimate aim of all departments—to provide adequate, safe train service, whenever and wherever required, with dispatch, efficiency and economy.

According to preliminary estimates furnished by a large number of roads, the programs of roadway and track maintenance for the current year, taking the country as a whole, will exceed in magnitude even the record programs of recent years. Considering the traffic load that has been carried during these years, and the prospects of continued heavy traffic in the months ahead, the reasons for these large current maintenance programs are self-evident. And it is not enough that they be on paper. With thousands of miles of tracks, including those that will be called upon to bear the burden of the war load to the West, in a weakened condition as the result of shortages in track labor and replacement materials, it is imperative, in the interest of the safe and dependable movement of that war load, that these programs be completed, and in some cases be expanded.

To perform all this roadway work would present difficult problems under normal conditions. With a continuation of shortages in both labor and materials, with traffic pressing to still higher levels, at least on some roads, the task may well be impossible, unless maintenance forces are given full co-operation by operating officers. Included in such co-operation must be recognition of the fact that maintenance forces cannot maintain the tracks properly without adequate opportunity to work on them. Co-operation calls for acknowledgment that, when a matter of disrupting the work of the track forces arises, some trains are less important than others. Co-operation requires the "fleeting" of trains, where possible, to minimize interruptions to track maintenance operations, and, in double or multiple-track territory, the routing of some trains entirely around sections of track taken out of service and turned over to the track forces for specific periods. Moreover, only the operating department can provide prompt movement of camp and work trains to avoid delays to maintenance work and, where needed, furnish dispatchers or operators on the ground to co-ordinate the work of both departments, in their mutual interest.

None of these elements of co-operation with the track forces is new to operating officers. Many of them have extended such co-operation for years. Many others have liberalized their thinking in this direction in recent years. Under the conditions that are certain to prevail in the months immediately ahead, however, it is important that this attitude toward co-operation become general. If unreasonable resistance continues, it is the responsibility of maintenance men to convince the operating officers concerned that it is to their interest, and to that of the railroad industry generally, that they give the maintenance forces all of the "breaks" possible, to the end that they, in turn, may give operating men the kind of track that is required for safe and unrestricted train operation.

Canceled Checks and Certificates Are Valuable

Even though the war in Europe has come to an end there is still vital need for the conservation and reclamation of every possible pound of paper. A large and almost untapped source of high grade waste paper is to be found in the railroad storage of huge quantities of canceled bonds and stock certificates and dividend checks. It is a moot question how long corporations are warranted in preserving such papers. The situation, however, has been carefully studied by some railroads and corporations and such documents, except for recent years, are being converted into pulp.

Prior to May 1, 1944, the Interstate Commerce Commission regulations required the cremation of such papers, but since that date it has been possible, by following certain precautions, to convert them into pulp. Such waste paper may be converted into pulp in an ordinary plant, where it will be mixed with lower grade stock, or a better price may be obtained if it is converted in a special plant for the higher grade stock. While it may cost more to send it to one of these special plants, the additional expense in many instances will be fully justified.

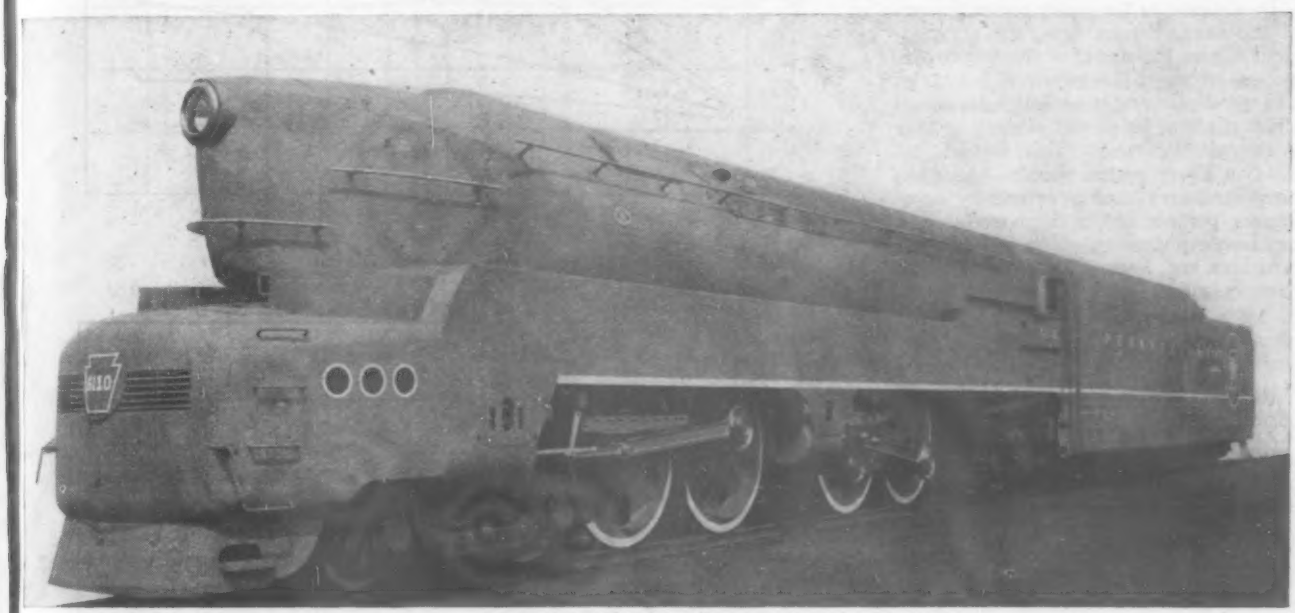
In a recent instance the legal department of a corporation objected to the destruction of such papers. Careful investigation developed the fact, however, that there had been no calls for reference to them beyond a reasonable term of years; also that insurance could be purchased at a cost which would justify the destruction of the canceled documents, particularly when the expense for storage space over the years was considered.

There are corporations which were established many years ago that until recently have never destroyed certificates or dividend checks, and the problem of storage is becoming troublesome.

The New York Central System recently disposed of 33,000 lb. of old stock certificates, which were made into high grade pulp. The War Production Board Conservation and Salvage Division has been giving special consideration to this particular problem, and has carefully prepared recommendations as to how the railroads and corporations may dispose of such waste paper properly and to the best advantage.

Pennsylvania Tests Duplex Locomotive

The 4-4-4-4 type proposed by Baldwin develops over 6,500 i.hp. at 85.5 miles an hour at a steam rate of 15.4 lb. — Boiler evaporates over 100,000 lb. per hr.



The Pennsylvania T-1 Locomotive

By RALPH P. JOHNSON

Chief Engineer, Baldwin Locomotive Works

IN the last ten years the increasing weight and length of passenger trains, combined with a continually rising demand for speed, has focused attention on motive-power design for this exacting type of service. The 4-8-4 type steam locomotive has been quite generally accepted in the United States as the best answer in this field, especially as it can double efficiently in fast-freight service.

Coincident with the use of the 4-8-4 for fast, heavy service came a breakdown of the old habit of changing locomotives with the varying characteristics of the terrain. The 4-8-4, with its big boiler and high wheels, is at its best possibly over fairly level country, but its weight also enables it to do an effective job in mountainous regions. This resulted in longer and longer locomotive runs until now it is common to run this type of locomotive as much as 1,800 miles at a time. This type of operation makes monthly averages of 20,000 miles fairly common.

Naturally, the more intensive use of power showed the necessity for high-class maintenance and justified the use of such devices as roller bearings not only on axles but on main and connecting rods as well. Locomotive designers began to give intensive thought to means of increasing availability and lowering maintenance time and costs.

One of the means for accomplishing this which suggested itself was the lowering of the piston thrust on crank pins by using four smaller cylinders in place of the two cylinders of conventional design. Many of the modern 4-8-4 type locomotives with boiler pressures around 275 lb. per sq. in. have piston thrusts of 160,000 lb. and one fleet with 300 lb. per sq. in. boiler pressure has 185,000 lb. Such thrusts require large crank-pin bearings, but the lengths of crank pins are restricted by clearances and the diameters by available space in the wheel center. With four cylinders the piston thrust can be cut in half and, even with 300 lb. per sq. in. boiler pressures, can be brought down to 90,000 lb. This smaller load makes possible smaller bearings at the back end of the main rod and eliminates heavy moving parts.

The Four-Cylinder Locomotive

Four-cylinder locomotives have been common for years, but with articulated frames. Such engines, while powerful, were not suited to high speeds, since the front unit is not sufficiently stable; spring-centering devices are not effective against slight lateral displacements. In addition, the hinged connection between front and rear units has always been a high maintenance item. A four-cylinder arrangement, with a rigid frame and rear cylinders between the two groups of driving wheels had been proposed by the Baldwin Locomotive Works several times, notably in March, 1932, to the Baltimore & Ohio, in December, 1935, to the Florida East Coast, and in January, 1936, to the New York, New Haven & Hartford. This design had been rejected in all cases on account of the long rigid wheelbase. George Emerson of the B. & O. attempted to overcome this objection by building a four-cylinder, non-articulated locomotive in 1937, with the rear cylinder back of the driving wheels. At first glance this would seem to be a solution, but this arrangement is undesirable for various reasons:

(1) The cylinder, guides, and crosshead are in a very dirty location.

(2) The location is cramped and inaccessible and it is difficult to get steam and exhaust pipes into available space.

(3) The rear unit is running "backward" in forward motion, which means that the crosshead thrust is downward and multiple-bearing guides have to carry this additional load entirely on the ledges.

This article is from a paper presented before the New York Railway Club on May 17, 1945.

(4) A very short main rod is required unless the cylinder is placed far under the firebox.

(5) Very little is gained in overall length of locomotive as saving in rigid wheel base is cancelled by longer overhang due to moving the grate further to the rear to avoid contraction of the ash pan by the rear cylinder saddle.

For the above reasons we prefer the four-cylinder locomotive of our own design.

In addition to the lower piston thrusts of the four-cylinder type, the arrangement allows the use of a shorter stroke, as less strength is required for axles and crank pins and the smaller diameters allow them to be placed closer together in the wheel centers. This, in turn, results in lower piston speeds. As indicator-card areas are governed by revolutions per minute and piston speeds, the lower piston speeds give a bigger card area and, hence, higher mean effective pressures.

Lighter Side-Rods

Furthermore, this type of locomotive permits the most simple driving-rod arrangement with the best possible conditions at the main side-rod connection which need only be large enough to transmit the load to one pair of drivers as contrasted with the large side-rod connection necessary on a 4-8-4 type locomotive to transmit the load to three pairs of drivers.

Splitting up the drivers of a 4-8-4 type locomotive into two groups, as in the 4-4-4-4 type, or of a 2-10-4 type into a 4-4-6-4 type, reduces the machine friction, thus giving higher drawbar pull, especially at high speeds.

When Baldwin first started work on four-cylinder designs, a commercial poppet-valve gear was not available, but even without the poppet valve one of the most favorable aspects of the four-cylinder type is its improved ability to handle steam through four piston valves, rather than two. A 4-8-4 type locomotive with a 27-in. cylinder and a 12-in. piston valve is definitely crippled at speeds by the inability of the valve to handle steam efficiently. In the case of an equivalent 4-4-4-4 type we would have four 20-in. diameter cylinders and four 12-in. diameter piston valves, which is equivalent to a 24-in. piston valve with a 28-in. cylinder, as the area of two 20-in. cylinders is the same as that of a 28-in. cylinder. Thus, the ratio of valve diameter to cylinder diameter is increased from 44 per cent on the 4-8-4 type to 86 per cent on the 4-4-4-4 type, with a consequent ability to handle steam more efficiently.

All of these considerations prompted the Baldwin Locomotive Works to place a stock order to design and build a 4-4-4-4 type locomotive for demonstration purposes in high-speed heavy passenger service, and this decision was made in October, 1939. However, before we could build this demonstrator, a great railroad company stepped in and gave us an order.

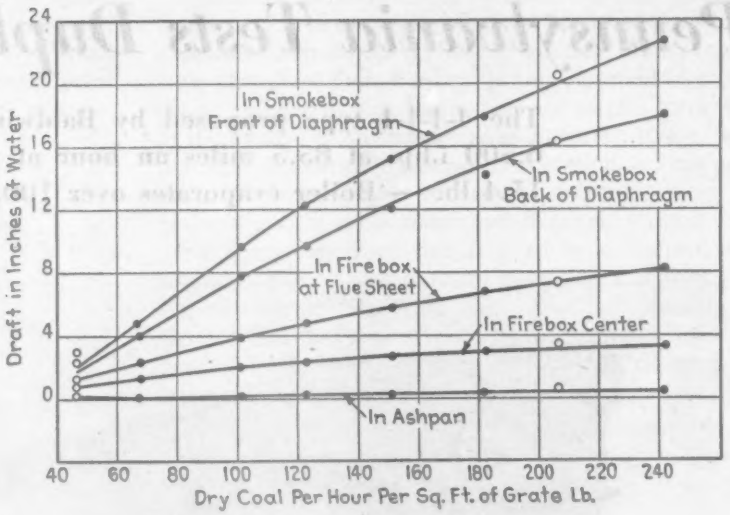


Fig. 1—Draft Losses Through the Boiler

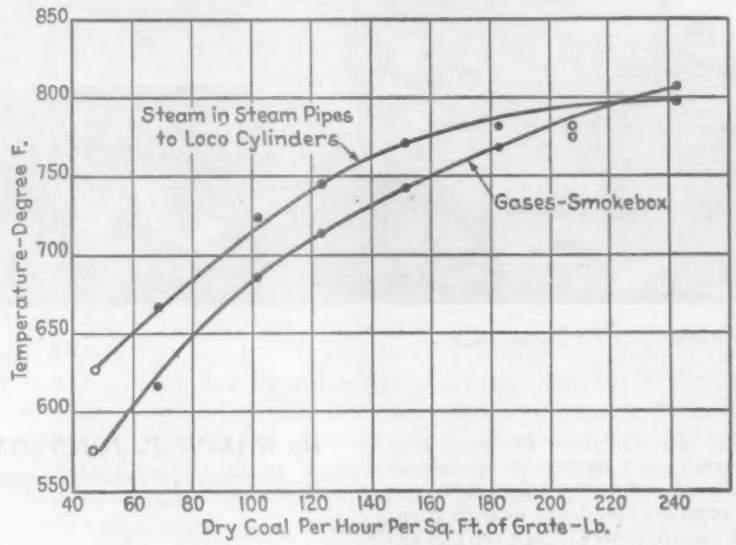


Fig. 2—Steam and Smokebox Temperatures

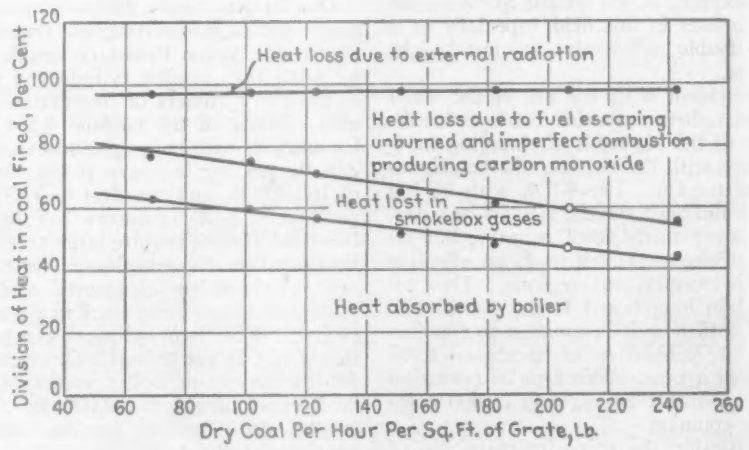

Division of Heat in Coal Fired, Per Cent
120
100
80
60
40
20
0
Heat loss due to external radiation
Heat loss due to fuel escaping unburned and imperfect combustion producing carbon monoxide
Heat lost in smokebox gases
Heat absorbed by boiler
40 60 80 100 120 140 160 180 200 220 240 260
Dry Coal Per Hour Per Sq. Ft. of Grate, Lb.

Fig. 3—Heat Balance

The Pennsylvania in 1937, in search for better steam power, had formed an advisory committee composed of the chief engineers of the three largest locomotive builders, and as a result of their work built at Altoona the four-cylinder locomotive known as the S-1. This was exhibited in 1939 and 1940 at the World's Fair in New York. After the Fair this locomotive was placed in serv-

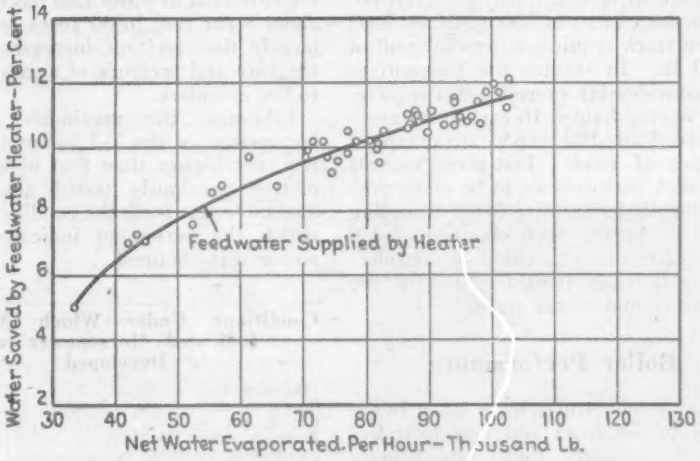


Fig. 4—Saving Effected by the Feedwater Heater

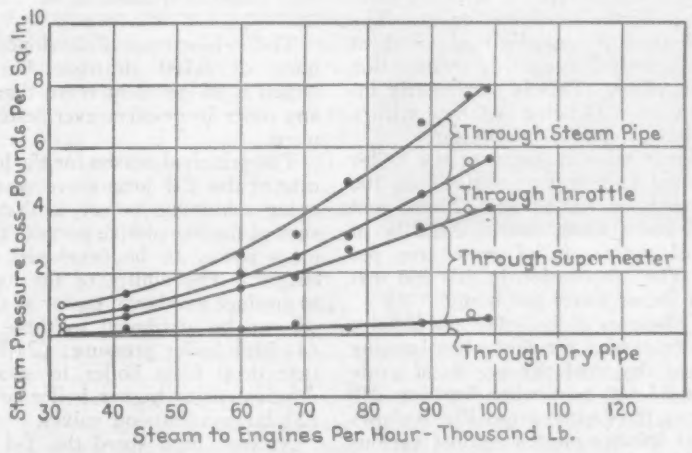


Fig. 5—Steam Pressure Losses from the Boiler to the Cylinders

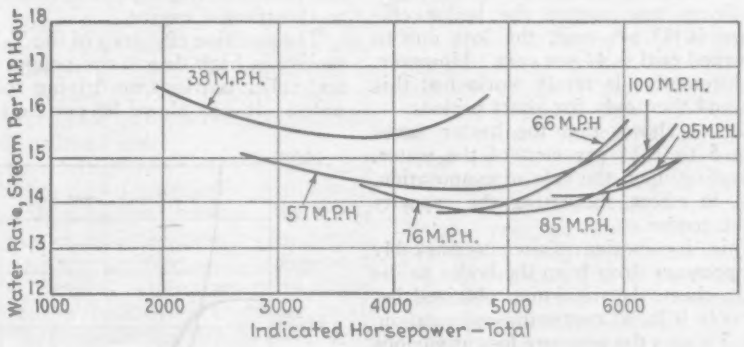


Fig. 6—Steam per Indicated Horsepower Hour

ice, but was necessarily restricted to certain territories on account of its large size.

Nevertheless, the Pennsylvania's experience with this locomotive convinced them that the four-cylinder rigid-frame type had many advantages. Further, they were forced to a considerable amount of double-heading of passenger trains, so when the Baldwin Locomotive Works submitted their specification for a four-cylinder type, smaller than the S-1 but more powerful than any other passenger locomotive yet designed, the Pennsylvania promptly placed on order for two on July 30, 1940. They gave the class number "T-1" to these two locomotives and, thus, became the pioneer railroad in the use of this new engine.

The locomotive was designed to haul a trailing load of 880 tons (eleven 80-ton passenger cars) at 100 miles per hour on level, tangent track, and to traverse 15-deg. curves at a maximum speed of 15 m.p.h. It was expected to evaporate a maximum of 85,000 lb. of water. When first planned, piston valves were considered, but before being built tests by the Pennsylvania with a poppet-valve gear on one of their K-4s, a 4-6-2 type locomotive, indicated at least a 20 per cent improvement in efficiency.*

As the proposed locomotive was intended to operate at speeds of 100 m.p.h. and over, the Baldwin Locomotive Works recommended that the two locomotives, to be known as the T-1 class, be equipped with this type of gear. To this the Pennsylvania acceded.†

First Test Run

The first of these locomotives was delivered to the railroad on April 22, 1942, and the second on May 21, 1942. Locomotive No. 6110 made its first through test run from Harrisburg, Pa., to Chicago with a train of 14 coaches weighing 1,000 tons. It had no trouble in bettering the normal schedule, leaving Crestline, Ohio, 15 min. late and arriving at Fort Wayne, Ind., 5 min. ahead of schedule. It left Fort Wayne 3 min. late and arrived in Chicago 10 min. ahead of schedule. From Crestline to Chicago the speed was consistently around 100 m.p.h.

On another test trip, locomotive No. 6111, hauling 16 cars, covered 69 miles on the Fort Wayne division at an average speed of 102 miles per hour.

These locomotives proved themselves so powerful that they were reserved for heavy passenger trains which otherwise would require double heading.

In April, 1944, locomotive No. 6110, having accumulated about 120,000 miles in road service, was sent to the Altoona test plant for a complete test. The test plant was rebuilt to accommodate her and a test program devised to explore her capabilities thoroughly.

Before pointing out some of the outstanding results obtained on the test plant, let us record some of the pertinent features of the design which had a bearing on the results.

In order to keep the pressure drop from the boiler to the cylinders as low as possible, the steam passages were made large. The dimensions in the table indicate this.

Steam-Passage Areas

	Sq. In.
Dry pipe	78.9
Superheater elements	137.6
Throttle	101.7
Steam pipe (each)	63.6

The resistance of the flues to the passage of the gases of combustion depends upon the area of the openings through the flues and the hydraulic depth of the flues (hydraulic depth is the cross-sectional area of the flue through which the gases flow, divided by the gas-swept perimeter). This resistance is an important factor in the capacity of the boiler.

* For road tests of Pennsylvania locomotive No. 5399 equipped with the Franklin system of steam distribution see the March 1, 1941, *Railway Age*, page 375. For the results of test-plant tests see the March 8, 1941, *Railway Age*, page 405.

† For a description of the Pennsylvania T-1 locomotive see the December 12, 1942, *Railway Age*, page 956.

Grate and Gas Areas

Area through all flues, sq. ft.	10.61
Grate area, sq. ft.	91.3
Ratio—grate area to flue openings	8.6
Hydraulic depth of all flues, in.	4.27

As delivered, the railroad felt that steaming required more careful attention to firing than was desirable and, therefore, experimented with various stacks, nozzle diameters, diaphragm and table-plate arrangements.

Two five-point exhaust nozzles with an area of 43.1 sq. in. were finally selected. The locomotive has separate exhaust stands for each pair of cylinders, but they are connected together.

Originally each exhaust stand had a separate 19-in. stack. Two 21-in. stacks were tried, the spacing between them varied, and the two 19-in. stacks joined to form one oval stack. None of these changes showed marked improvement, but the oval stack was finally adopted as it is an easier casting to make and weighs less.

Fig. 1 shows the drafts taken at different locations to show the loss through the several parts of the boiler. It will be noted that at normal rates of firing—i.e., 150 lb. per sq. ft. of grate area—the draft is 15 in. of water and that the greatest draft required is through the flues at all rates of firing.

The table-type grate bars are 9¾ in. wide with 136 11/16-in. square holes on a side, giving an area with the openings between bars of 14.93 sq. ft., or 16.4 per cent of the total grate area for air admission.

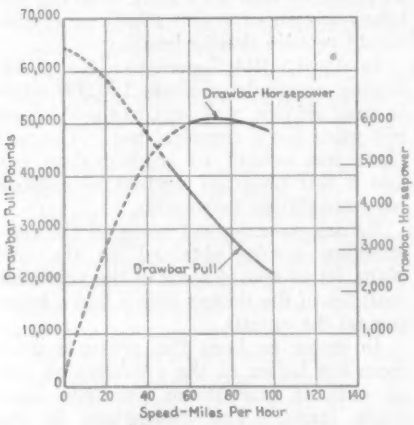


Fig. 7—Drawbar Pull and Drawbar Horsepower Corrected for a Water Rate of 100,000 Lb. of Steam per Hour

The Test-Plant Results

Tests were made at speeds of 38, 57, 66, 76, 85, 95, and 100 m.p.h. and at various cut-offs from 10 to 50 per cent, with full throttle, and there were various other miscellaneous tests run for special purposes.

Coal used was a high-volatile, run-of-mine, Westmoreland County, with all slack under ¾ in. screened out. Its calorific value was 14,123 B.t.u. and ash content 7.58 per cent.

Based on the Davis formula for train resistance to haul a train of eleven 80-ton passenger cars at 100 m.p.h. on level tangent track requires a drawbar pull of 11,200 lb. In service the locomotives have considerably exceeded this requirement, having hauled 16 cars at an average speed of 100 m.p.h. over typical stretches of road. Test-plant records show such performance to be easily possible, a cylinder tractive force exceeding 25,000 lb. having been obtained at 420 r.p.m. (100 m.p.h), which is considerably more than required to haul the locomotive and 16-car train.

Boiler Performance

Steam temperatures were taken in the header to the front and rear cylinders where it joins the steam pipe leading from the superheater header. Fig. 2 shows these temperatures at various rates of firing, compared with the temperatures of the smokebox gases. The high degree of superheat obtained at even relatively low rates of evaporation is outstanding. This is particularly interesting as it is being obtained with a single-loop Type A superheater.

The maximum capacity of the boiler was found in a test at a speed of 100 miles per hour, full throttle, 20 per cent cut-off, and a firing rate of 252.2 lb. of dry coal per sq. ft. of grate area per hour. The evaporation in this test was 105,475 lb. of water per hour.*

The efficiency of the boiler and furnace ranges from 65.5 per cent when burning 50 lb. of dry coal per sq. ft. of grate area to 43 per cent when burning 240 lb. per sq. ft. of grate area. Fig. 3 shows the heat balance plotted against various rates of firing. As in all locomotive boilers the largest heat loss is that due to fuel escaping unburned. At the highest firing rate, where the boiler efficiency is 43 per cent, the loss due to unburned coal is 44 per cent. However, the locomotive is rarely worked at this rate and then only for short periods.

Fig. 4 shows that the heater saves from 5 to 11½ per cent of the water, depending upon the rate of evaporation, thus, in effect, increasing the capacity of the tender.

This locomotive shows remarkably low pressure drop from the boiler to the steam chest, the maximum obtained being only 9 lb. at maximum evaporation. Fig. 5 shows the pressure loss at various rates of steam use, distributed for the dry pipe, superheater, throttle, and steam pipes. These pressures were measured with a mercury manometer.

The steam per indicated horsepower-hour at various speeds is shown in Fig. 6. The minimum water rate was 13.6 lb. at a speed of 76 m.p.h. and 20 per cent cut-off. In most of the tests the water rate was between 14 and 15.5 lb.

In 40 years of testing on the Altoona test plant, this locomotive gave the lowest water rate. In looking over these records it is interesting to note that after superheating came into use the improvement in water rate has only been about 8 per cent in 30 years and this is largely the result of increases in temperature and pressure of steam supplied to the cylinders.

Likewise, the maximum indicated horsepower of the T-1 locomotive is 40 per cent higher than that of any locomotive previously tested at Altoona. The table sets forth the conditions under which the maximum indicated horsepower was obtained.

Conditions Under Which Maximum Indicated Horsepower was Developed

Maximum hp.	6,552
Speed, m.p.h.	85.5
Cut-off, per cent	25
Boiler pressure, lb.	295
Steam-chest pressure, lb.	287
Temperature steam at steam chest, deg. F.	757
Steam to engine per hr., lb.	101,219
Steam per i.hp. hr., lb.	15.4
Total volume of cylinders, cu. ft.	35.92

The T-1 locomotive developed a maximum of 6,100 drawbar horsepower, which is 46 per cent more than that of any other locomotive ever tested on the plant.

The principal reason for the low water rate of the T-1 locomotive when developing maximum power is that the design of the locomotive permits the maximum power to be developed at short cut-off. The ability of the locomotive to produce maximum power at short cut-off can be attributed to three factors: (1) high boiler pressure; (2) low-pressure drop from boiler to steam chest (equivalent to higher boiler pressure); (3) large admission valves.

At very high speed the T-1 locomotive produced nearly maximum power at 15 per cent cut-off. To produce moderate power at high speed it is necessary to throttle the engine.

The machine efficiency of the T-1 locomotive is high due to the poppet valves and roller bearings on driving rods and axles. It was above 90 per cent at all

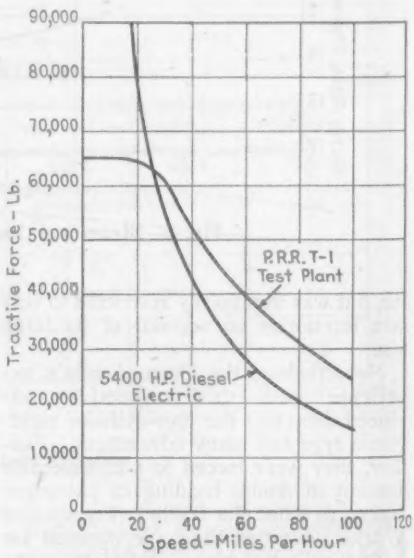


Fig. 8—Tractive Force Locomotive T-1 Locomotive Compared with That of a 5,400-Hp. Diesel Locomotive

* The calculated evaporation based on the Baldwin 80-lb. rule, including the feedwater heater, was given by the author as 82,000 lb.

speeds and horsepowers, with a high of 97.5 per cent at 38 m.p.h. and 4,500 hp.

Locomotive Performance

At low and moderate horsepowers the dry coal fired per drawbar horsepower-hour was generally below 2.5 lb. From 5,500 drawbar horsepower to 6,000 the coal rate rises from about 2.5 lb. to about 3.5 lb. Fig. 7 shows maximum drawbar pull and maximum drawbar horsepower based on a rate of 100,000 lb. of steam per hour.

The highest overall efficiency obtained was 8 per cent and the lowest 5 per cent. Except above a drawbar horsepower of 5,500 the efficiency was generally between 6½ and 7½ per cent.

An interesting comparison with the two-cylinder M-1-a locomotives of the Pennsylvania shows that the maximum drawbar horsepower developed by the T-1 locomotive was 46 per cent higher than the maximum developed by the M-1-a, although the steam to the engine per hour was only 11 per cent larger.

The T-1 locomotive was designed to haul a trailing load of 880 tons on level tangent track at a speed of 100 m.p.h. This requires a horsepower at the rear of the tender of 2,980. If wind and engine- and tender-truck resistances are deducted from the drawbar pull shown in Fig. 7, it is found that the T-1 locomotive develops 4,100 hp. at the rear of the tender at 100 m.p.h. which is about 38 per cent greater than necessary to meet the requirements. High points of the test are shown in a table.

It is believed that the foregoing attainments stamp this locomotive as one of the outstanding designs of this day. To develop over 6,550 i.hp., evaporate over 100,000 lb. of water per hour, attain steam temperatures of 800 deg. F., at steam rates around 15, and to ride comfortably at speeds up to 100 m.p.h. while hauling 16 cars, is so outstanding a performance as to warrant the interest of all railroad men.

These locomotives will out-perform a 5,400-hp. Diesel locomotive at all speeds above 26 m.p.h., as shown in Fig. 8, and if given comparable facilities for servicing and maintenance will do the work more cheaply. The disparity in Diesel and steam locomotive schedules is almost entirely attributable to coal, water and ash delays. With careful planning and the expenditure of only a fraction of the amounts spent in Diesel facilities, steam-locomotive servicing can be accomplished during the normal passenger stop. Coal chutes swinging lengthwise of the track and capable of dumping 43 tons of coal in 75 sec. have been installed. Likewise, water columns delivering 5,000 gal. per min. are in use. Hoppers capable of holding the full accumulation of ashes can be installed under tracks with sluices to wash them away. If such facilities are located at scheduled station stops, steam locomotives such as the T-1's can maintain schedules as fast as any demands impose.

Vollmer to Head Texas & Pacific

His forty-three years of railroading include experience in traffic, engineering, operation, maintenance

W. G. VOLLMER, senior vice-president of the Missouri Pacific and president of the Natchez & Southern, has been elected president of the Texas & Pacific and will shortly move his headquarters from St. Louis, Mo., to Dallas, Tex. J. L. Lancaster, who has been serving the T. & P. as chairman of the board and as president, has been re-elected to the former position.

With Mr. Vollmer taking the helm, the Texas & Pacific will be under the personal direction of a man who has devoted 43 of his 58 years to railroading. Of this length of time, 40 years have been with the Missouri Pacific, with 28 years in the executive department of that road. Indicative of his popularity among the rank and file of the Missouri Pacific and his close supervision of practically every department is the fact that he is reputed to know more M. P. employees by their first names than any other executive in St. Louis.

Mr. Vollmer was born at Cincinnati, Ohio, on July 30, 1886, and entered railway service in 1902 as a stenographer of the Pennsylvania in that city. In 1903 he became a stenographer of the Baltimore & Ohio, subsequently serving as division accountant. Later he served in various capacities on the Chicago, Rock Island & Pacific, and from 1905 to 1917 he held various positions in the passenger traffic, maintenance, engineering and operating departments of the Missouri Pacific. On May 1, 1917, Mr. Vollmer was promoted to assistant to the president, with headquarters at St. Louis, and in July, 1918, he was appointed assistant regional director, Southwestern region, of the U. S. Railroading Administration. On March 1, 1920, he returned to the Missouri Pacific as assistant to the president, and on July 1, 1933, he was promoted to executive assistant, and in May, 1943, he was advanced to senior vice-president.

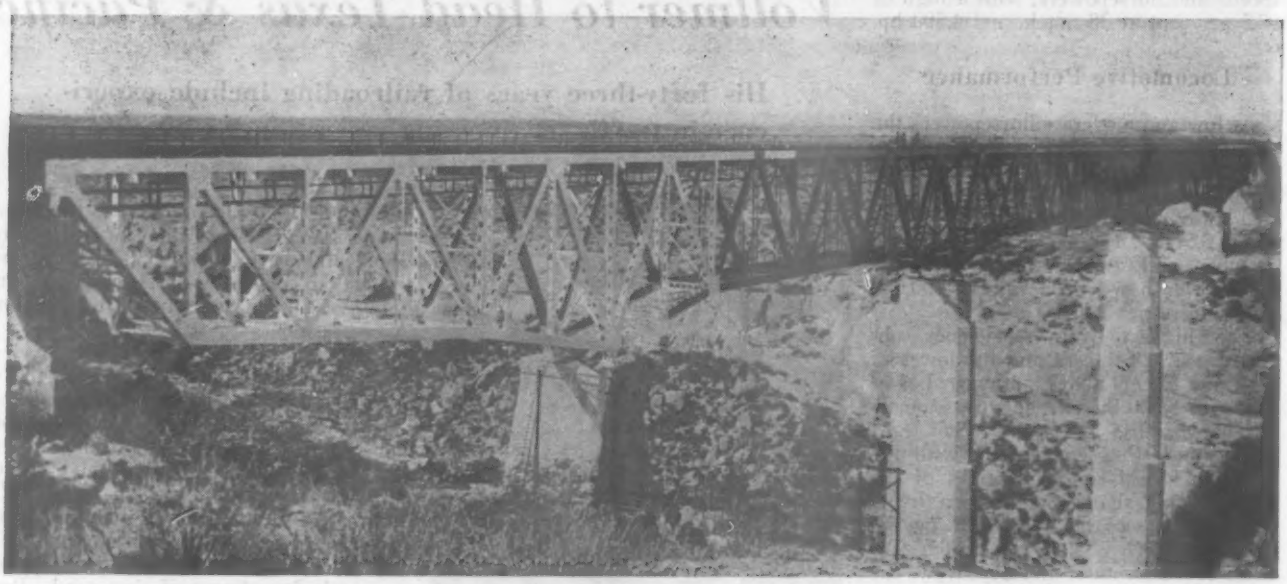
In his early years Mr. Vollmer developed and exhibited a trait for thoroughness. As a result of these characteristics he has, through the years, kept close tab on business and traffic trends throughout the United States and, while he was principal assistant to L. W. Baldwin, chief executive officer of the Missouri Pacific, also managed to find time to devote considerable time to the research department of that road. Because of the intense study of these two important factors of America's well-being and prosperity, Mr. Vollmer has stated repeatedly that the continued development of the vast natural resources of the Southwest is certain, with the railroads of the area to share in the benefits flowing therefrom.

Like many another railroad president, Mr. Vollmer gained prominence in his chosen life-work by what is accurately termed "the hard way." Before going to work for the Pennsylvania he worked and studied nights and by the time he was 16 had mastered shorthand. His desire to know railroading "inside out" was furthered when he became secretary to the chief engineer maintenance of way of the Missouri Pacific. In 1917, when B. F. Bush became president, Mr. Vollmer was recommended by several officers of the road as a young man who would make a good assistant. The fact that their good opinion bore fruit is indicated by the fact that he continued in that important capacity when, in 1923, Mr. Baldwin was elected head of the railroad.

An unusually clear insight into the character and abilities of Mr. Vollmer was given shortly after his election to the presidency of the Texas & Pacific when a member of the board, in a statement to the press, said in part:

"Mr. Vollmer believes that anything worth doing is worth doing well. He believes in getting all sides of a question before making any decision and he isn't afraid to say he doesn't know if some problem comes up with which he is not thoroughly familiar. But you can be sure that when he digs into it he comes up with all the facts and the right, logical and fair answer."

Total operating revenues and net operating income of the Texas & Pacific continued to increase in the first two months of this year. Total operating revenues were $13,346,239 as compared with $13,020,935 in the first two months of 1944, and net operating income was $1,408,633 as compared with $1,112,842.



The New Bridge, Looking West

New Pecos River Bridge Has High Piers

Existing inadequate structure over deep gorge in Texas is replaced with span of modern design as assurance against possible delays to war traffic

TRANSCONTINENTAL traffic moving over the Texas & New Orleans (Southern Pacific Lines in Texas and Louisiana) is now crossing the Pecos River gorge in Texas on a new bridge that, to preclude possible delays to war traffic, has been constructed to replace an existing viaduct built 54 years ago. With a total length of 1,390 ft. 6 in., the new bridge has both continuous and cantilever spans, and is of special interest because of the height, design and method of construction of two of its piers.

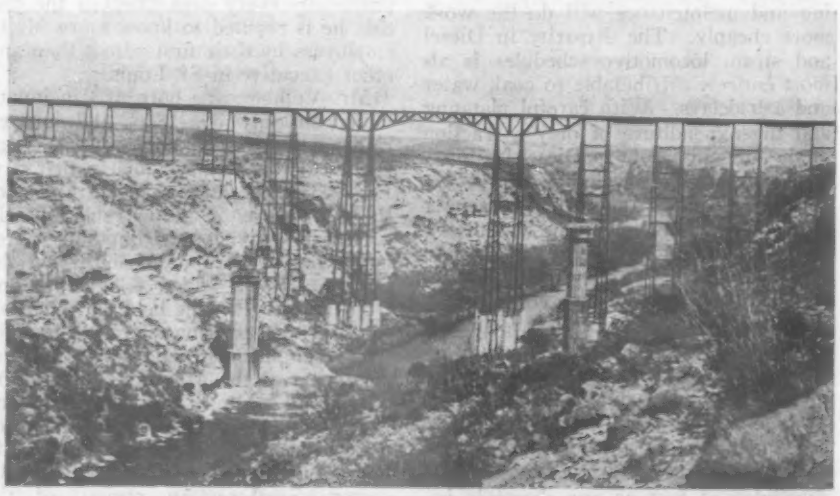
Gorge 300 Ft. Deep

The Pecos river, made famous by the part it has played in the history and literature of the Southwest, rises near Las Vegas, N. M. Draining the eastern slopes of the Sangre De Cristo and Sacramento Mountain ranges, it flows southward, paralleling the Rio Grande through the Carlsbad Cavern area and crossing Texas to empty into the Rio Grande near Langtry, about 195 miles west of San Antonio. For the most part, the river occupies a deep gorge which has been eroded into the fossil-bearing marine limestone formations of the area.

That part of the Texas & New Orleans extending through this part of Texas was originally built with hand labor, using Chinese coolies, and for this reason it generally followed the water courses for easy grading. The line originally crossed the Pecos river near its mouth, but was later relocated northward about two and one-half miles to reduce distance and curvature. At the latter location the river lies in a gorge about 300 ft. deep, requiring the construction of a high viaduct, which was built by the Phoenix Bridge Company in 1891. This bridge, a single-track structure, was designed for Cooper's Class A loading, which corresponds to E25.

It was known as the world's highest bridge and had a length of 2,180 ft. It consisted of plate and lattice-girder spans supported on high four-leg viaduct towers, except for a cantilever truss span 185 ft. in length, which extended across the stream. The river at this crossing has a width at low water of only 170 ft. and is very shallow.

In 1909 the load capacity of the structure was increased to Cooper's E55 by reinforcing the existing tower columns and by adding a central line of columns



Looking Upstream at Old Bridge—Note Piers Under Construction in Foreground

and deck girders and trusses. At the same time the length was reduced 665 ft. by constructing a high fill at the west end. The original viaduct was built entirely of wrought iron, but in carrying out the reinforcing program of 1909, medium steel was used.

In 1929 the structure was inspected in detail and re-computed for its load capacity under the physical conditions existing at that time. After making minor repairs to strengthen and reinforce defective details, it was rated good for Cooper's E60 loading at a speed not in excess of 12 m.p.h. At that time fatigue cracks were discovered in some of the details of the high towers, which were braced with rigid horizontal struts and with tension rods. The diagonal rods required frequent adjustment to keep the high towers plumb. Because of these conditions, frequent inspections were made of the structure, and once each year its condition was examined thoroughly and reported on in detail.

War Traffic Changes Picture

Under the pre-war traffic conditions on this line, the speed and loading restrictions at the bridge did not cause any measurable adverse effect on day-to-day operations. There was no reason to anticipate any sudden accumulation of fatigue cracks or other weaknesses requiring repairs or replacements which could not be handled between trains in such a way as to avoid any serious traffic delays or necessity for detouring. Under these circumstances the need for replacing the old structure with a new bridge was not of pressing importance. However, in view of the substantial increase that occurred in the tonnage of important military traffic moving over the structure following Pearl Harbor, there was reason to anticipate the possibility of an increase occurring in the rate of development of fatigue cracks, and perhaps other weaknesses, without sufficient time between the much more frequent train movements to perform necessary repairs and replacements. As this line is of primary importance in the handling of transcontinental traffic highly essential to the war effort, it was concluded during the first year of the war that security considerations, involving the need for assurance against the possibility of serious traffic delays, made it mandatory that the old viaduct be replaced with a modern structure.

The high cliffs forming the gorge are badly eroded and under-cut and are scarred by cavities and deep side gulleys. However, a detailed topographic survey indicated that a suitable site existed only 440 ft. downstream for the building of a new structure of approximately the same length as the existing bridge. Studies and cost estimates were made for 12 different types of structures, ranging all the way from viaducts, arches and simple spans to cantilever truss spans. Any simple span arrangement would require a number of very high piers, which would not only be difficult and expensive to construct at this location, but which would be unsuitable because of their great height to resist the longitudinal tractive forces and the horizontal forces that would be caused by possible earthquakes.

The High Piers of the New Bridge Were Constructed by the Continuous Jacking Method

From these various studies it was determined that the most favorable conditions could be obtained by installing a structure combining continuous side spans with a central cantilever span, and supported on only two high piers in the gorge, with expansion bearings on top of the two high piers and all tractive and longitudinal forces carried to two low piers placed on the edges of the gorge wall. This arrangement also resulted in an economical balance between the relative costs of the substructure and the superstructure, and gave a bridge that would be speedily constructed by the use of cableways for the substructure and of the cantilever method for the superstructure. Also, the bridge that was designed for this location is symmetrical about the center, thus permitting duplication in fabrication. It consists of two 80-ft. deck plate-girder spans, two 160-ft. 6-in. anchor arms continuous with two 267-ft. 6-in. side spans, and a central cantilever span 374 ft. 6 in. long, making a total length of 1,390 ft. 6 in. Like its predecessors, the new bridge is a single-track structure.

In the design of the high piers, of which the tallest measures 257 ft. 4½ in. from the top of the footing to the top of the cap, consideration was given to the warping effect that would be produced by the temperature differential caused by the sun shining on one side only, and also to the shortening due to shrinkage of the concrete. The piers were designed to resist an earthquake force of 1/10 gravity acting on them, and, in addition, they will be safe against all combinations of forces if immersed by the construction of a future dam at or near the bridge. To reduce weight and increase strength, the two high piers were designed with hollow interiors. They are straight sided in sections up to 76 ft. in height, thus permitting the use of cantilever or jacking-type forms for continuous pouring of the concrete. All piers are founded on hard rock, which was leveled, benched and drilled to detect the existence of possible under-surface cavities or seams.

An application for the necessary materials and priorities for the new bridge was made through the Office of Defense Transportation to the War Production

View of the Erection Work as It Was Nearing the Closing Point

Board on February 17, 1943, and an AA-3 priority was granted on June 19, 1943. A contract for building the substructure was awarded to Brown & Root in August, 1943. This firm had the necessary cableway for conducting the work and was already established at the site, doing grading and other work in connection with the required change of line.

A method of building the piers involving the continuous vertical jacking of the forms was adopted by the contractor, following plans and details prepared by the consulting engineer, C. M. Davis, who kept in constant touch with the work. This method required working day and night shifts so that the concrete could be poured continuously. Some delays resulted due to labor shortages. Much of the labor used consisted of Mexicans or Indians, many of whom could not understand English. These mixed laborers, together with the few skilled workers required, the contractor's supervisory forces and the engineers, all lived at a camp built at the site of the work and ate their meals at the contractor's commissary.

The substructure contract required the completion in 240 days of sufficient piers to permit steel erection to be started on one-half of the bridge, and the completion of all piers in not less than 340 days. No unusual construction difficulties were encountered and the plan of jacking the forms and pouring the concrete continuously made it possible for the contractor, in spite of delays due to labor and material shortages, to complete all of the piers, ready for steel erection, in 256 days.

Erection of Superstructure

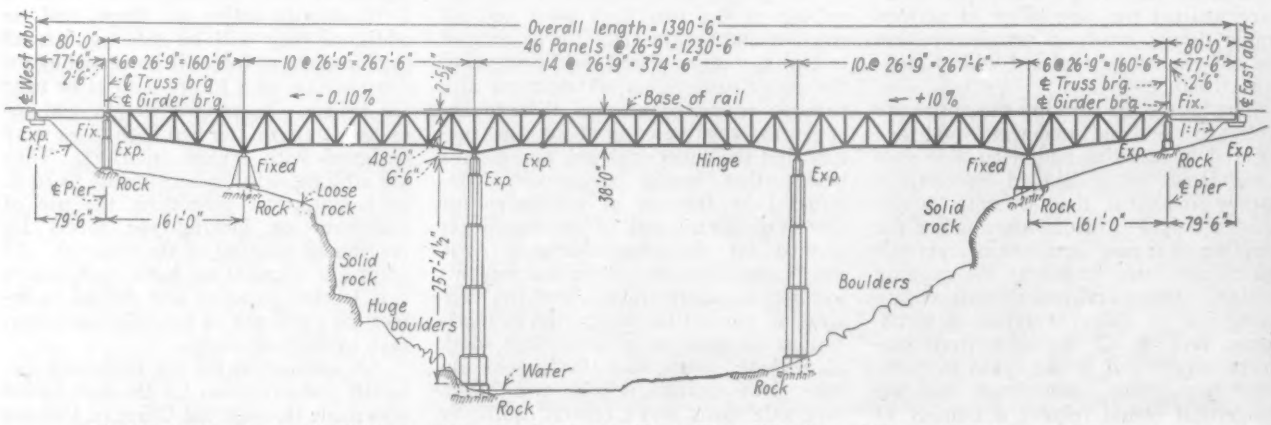
The early completion of all piers made it possible for the Bethlehem Steel Company, contractors for the superstructure, to plan on erecting the superstructure with two travelers, one working from each end, and, had it not been for unforeseen delays due to the war, this work could have been completed early in September, 1944, or about one year after construction was started. All material was rolled, ready for fabrication, in Chicago, and sufficient material had been fabricated to start erection with the two travelers in April, 1944. However, war-time emergencies made it necessary for the War Production Board to delay the fabrication of steelwork from time to time in order to get delivery of badly-needed Bailey bridges and similar items of war material.

To Expedite Traffic

Finally, in July, 1944, sufficient material had been fabricated to justify moving both travelers and an organization to the site, but there were subsequent interferences with the fabrication and a shortage of skilled workers which made it impossible to keep the two travelers in full operation. At the close of the work there was such a shortage of structural iron workers that the contractor had to import Caughnawaga Indians from Montreal to finish the riveting. In spite of all of the war-time delays, both contractors completed the work within the contract time.

The new bridge is designed for Cooper's E72 loading and is built entirely of medium carbon steel. Data obtained by measurements and observations of the bridge under traffic have closely checked the principles of the design. The deflection at the center under full live loading shows that the actual deflection is less than the theoretical deflection. Construction of the bridge, together with important line and grade changes now under way or contemplated, will greatly expedite the movement of both passenger and freight traffic over this line.

Completion of this project was hastened materially as a result of excellent co-operation on the part of the representatives of all of the various interests at the site of the work. The bridge was designed and its construction supervised by Modjeski and Masters, consulting engineers, Harrisburg, Pa., with O. F. Sorgenfrei acting as resident engineer on the job. Brown & Root were represented by Ross White, general superintendent, and W. E. Woodruff, field superintendent. E. L. Durkee was superintendent and engineer in charge for the Bethlehem Steel Company. H. J. McKenzie, assistant to R. W. Barnes, then chief engineer of the Texas & New Orleans, represented the railroad at the site. Mr. Barnes is now vice-president of the road and Mr. McKenzie is chief engineer.



The New Structure, of Which an Elevation is Shown Here, Has a Number of Unusual Features of Design

Nickel Plate's Finances Transformed

Striking reductions in debt and interest charges restore credit—Company is committed to program of improvements to properties

THROUGH a policy of debt reduction, inaugurated in 1937, the Nickel Plate has eliminated all of its early maturities, all divisional mortgages, and all note issues; and achieved a complete metamorphosis of its financial position.

By far the greater portion of the sharp reduction in indebtedness effected was accomplished by the application of earnings to that purpose. The principal exception occurred in 1941, when the company retired $16,000,000 of collateral trust 4 per cent notes due in 1946 with approximately $11,000,000 received from the sale of certificates of deposit for 115,193 shares of Wheeling & Lake Erie 4 per cent prior lien stock, and other funds derived from earnings and short term borrowings. (Sale of the prior lien stock reduced the company's dividend income by $460,772 annually).

As a result of the retirement of the collateral trust notes in 1941 and further purchase and retirement of obligations amounting to approximately $13,000,000 in the years 1942 and 1943, the company succeeded in sufficiently restoring its credit to undertake, in September of last year, a program of refunding obligations designed further to reduce fixed charges and simplify the debt structure.

Finances Simplified

As the first step in this program, the company sold a $10,000,000 five-year collateral note under competitive bidding at an interest rate of 1.745 per cent and applied the proceeds, together with $5,300,000 of treasury cash, to the redemption at 101 of $15,188,000 of extended first mortgage 3½s of 1947. Retirement of these bonds improved the lien position of the refunding mortgage and enabled the company to sell on December 19 last, at competitive bidding, $42,000,000 of 30-year refunding mortgage 3¾ per cent bonds, series D, at 100.529. The proceeds of this sale, aggregating $42,222,180, were received on January 11, 1945, and, with treasury cash, were used to prepay the $10,000,000 collateral note and to redeem at 107.5 the $26,058,000 of refunding mortgage 5½s of 1974, and $6,500,000 of Toledo, St. Louis & Western first mortgage 4s of 1950. The final step was the sale on April 26 last of $58,000,000, of a total issue of $68,000,000, of 3¼ per cent refunding mortgage series E bonds at 99.779, an average annual interest cost of 3.256 per cent. Proceeds from the sale of these latter bonds ($57,871,820, exclusive of accrued interest), together with treasury funds, will be used to redeem at 102 on September 1, 1945, the presently outstanding $59,875,000 of refunding 4½s of 1978. (The remaining $10,000,000 of the series E bonds will replace a like amount of series C bonds held in the company's treasury and cannot be sold without Interstate Commerce Commission authorization.)

Debt Reduced

The company's record in reducing debt and interest charges is striking. On completion of the present financing, as compared with a total non-equipment debt of $154,588,000 at the end of 1934, and of $150,505,000 at the end of 1937, the Nickel Plate will have a non-equipment debt of $100,000,000, reductions of $54,588,000 and $50,505,000, respectively, since those dates. The net reduction in total debt since 1934 will amount to $48,100,000, and since 1937 to $44,403,000. Current interest requirements probably could be supported under almost any conditions. Compared with 1934 interest charges of $7,422,000, and 1937 interest charges of $7,357,000, annual interest requirements will be approximately $3,816,000. The debt structure consists of a single mortgage—the refunding mortgage—which is a first lien on all of the company's lines. There will be $100,000,000 of bonds outstanding, including the $42,000,000 of series Ds of 1975 sold last December.

The company's capitalization after retirement of the refunding 4½s and issuance of the new series E bonds will be as follows:

Mortgage Debt and Equipment Obligations	
Refunding Mortgage 3¾% Bonds, Series D, due January 1, 1975	$42,000,000
Refunding Mortgage 3¼% Bonds, Series E, due June 1, 1980	58,000,000[1]
Total Mortgage Debt	$100,000,000
Equipment obligations, various rates and maturing through 1958 in varying amounts	15,789,000[2]
Total Mortgage Debt and Equipment Obligations	$115,789,000
Capital Stock	
6% Cumulative Preferred, 360,577.71 shares, par value $100 per share[3]	$36,057,771
Common, 337,467.34 shares, par value $100 per share	33,746,734
Stock Liability for Conversion	24,100
Premiums and Assessments on Capital Stock	200,724
Total Capital Stock	$70,029,329
Total Capitalization	$185,818,329

[1] In addition, $10,000,000 of series E bonds will be held in the company's treasury.
[2] Estimated. Does not include $1,400,000 of equipment trust certificates to be issued in near future.
[3] Unpaid accumulations on this stock as of March 31, 1945, were $29,746,530, or $82.50 per share.

Table I shows debt and interest charges after completion of the present refinancing and at various past dates and Table II presents a summary of earnings for years 1935 to 1944, and for the first three months of 1944 and 1945.

Contingent Liabilities

The Nickel Plate is contingently liable on obligations of the Cleveland Union Terminals Company, the Toledo Terminal Railroad, the Detroit & Toledo Shore Line Railroad and the Northern Ohio Railway. Principal contingent liability is the company's joint guaranty with the New York Central and its subsidiary, the Cleveland, Cincinnati, Chicago & St. Louis, of principal, interest and sinking fund payments on the first mortgage 50-year bonds of the Cleveland Union Terminals Company, of which there were outstanding on February 28, 1945, $9,625,400 of series A 5½s due 1972, $19,371,700 of series B 5s due 1973, and $18,761,000 of series C 4½s due 1977, a total of $47,758,100.

The stock of the Cleveland Union Terminals Company (which owns and operates the Union Passenger Terminal and approaches at Cleveland, Ohio) is owned 71 per cent by New York Central, 22 per cent by the Cleveland, Cincinnati, Chicago & St. Louis and seven per cent by the Nickel Plate. In addition to the proprietary companies, the Baltimore & Ohio and the Shaker Heights Rapid Transit Lines use the station on a rental basis. Net costs of the station are borne by the owning companies on a user basis, the Nickel Plate's proportion averaging approximately $394,000 annually over the past ten years, or about 6½ per cent of the total.

Each series of first mortgage bonds of the terminals company contains a sinking fund into which fixed amounts aggregating $217,400 plus interest on bonds previously retired are paid semi-annually. These payments are calculated to retire the respective series of bonds on or prior to their respective maturity dates. As of February 28, 1945, $12,241,900 of bonds had been retired and payments to be made in the next twelve months will be sufficient to retire another $1,000,000. Average cost of the bonds retired has been substantially below the redemption price, and accordingly the continued operation of the sinking fund should bring about the retirement of all bonds several years in advance of the respective maturity dates.

Table I—Reduction in Debt and Interest Charges

	Debt outstanding in hands of public			
	After sale of Series E Bonds	Feb. 28, 1945	Dec. 31, 1937	Dec. 31, 1934
MORTGAGE DEBT				
Senior to Refunding Bonds	$ none	$ none	$33,572,000	$33,855,000
Refunding Bonds	100,000,000	101,875,000	85,933,000	85,933,000
TOTAL MORTGAGE DEBT	$100,000,000	$101,875,000	$119,505,000	$119,788,000
OTHER NON-EQUIPMENT DEBT				
Collateral Notes and Loans Payable	none	none	$16,000,000	$19,800,000
Unsecured Notes	none	none	15,000,000	15,000,000
TOTAL NON-EQUIPMENT DEBT	$100,000,000	$101,875,000	$150,505,000	$154,588,000
Equipment Obligations	15,789,000[1]	16,177,000	9,687,000	9,301,000
TOTAL DEBT	$115,789,000	$118,052,000	$160,192,000	$163,889,000
INTEREST CHARGES	$3,816,000[4]	4,642,000[3]	7,357,000[2]	7,422,000[2]

[1] Estimated. Does not include $1,400,000 equipment trust certificates to be issued in near future.
[2] For calendar year.
[3] One year's interest on obligations outstanding February 28, 1945.
[4] Estimated. Does not include charges on $1,400,000 of equipment trust certificates to be issued in the near future.

The Nickel Plate's tax accruals increased from $3,579,564 in 1941 to $22,827,546 in 1942, $26,564,020 in 1943 and $23,173,015 in 1944, chiefly due to excess profits taxes in the past three years of $16,915,000, $20,000,000 and $16,843,000, respectively.

The Nickel Plate was created by the consolidation on April 11, 1923, of the New York, Chicago & St. Louis (incorporated in 1887), the Toledo, St. Louis & Western (incorporated in 1900), the Lake Erie & Western (incorporated in 1887), the Chicago & State Line (incorporated in 1887), and the Fort Wayne, Cincinnati & Louisville (incorporated in 1881).

The Chesapeake & Ohio owns 192,400 shares, or 57 per cent of the outstanding common stock of the Nickel Plate and thereby effectively controls the latter. All voting rights reside in the common stock, except when, as at present, dividends on the preferred stock are in default for at least four quarterly periods. During such periods of default, holders of preferred stock are entitled to elect three of the company's fifteen directors. The Allegheny Corporation owns 606,634 shares, or 7.9 per cent of the outstanding common stock of the Chesapeake & Ohio.

Territory and Mileage

The Nickel Plate operates 1,687 miles of road, of which 1,659 miles are owned and 28 miles are operated under contracts for joint use with others. Of the mileage owned, 1,625 miles are main line and 34 miles are branch line. Approximately 177 miles of lines owned are double tracked and in addition the company operates as second main track 73 miles of lines owned by other railroad companies. The operated lines extend from Buffalo, N. Y., via Cleveland to Chicago; from Toledo, Ohio, to St. Louis, Mo.; from Sandusky, Ohio, to Peoria, Ill.; from Michigan City to Indianapolis, Ind.; from Fort Wayne to Rushville and Connersville, also in Indiana; and from St. Mary's to Minster, Ohio. The company's lines of heaviest traffic are from Buffalo to Chicago and from Arcadia, Ohio, to Madison, Ill.

Rails and Ties

The company's lines of heaviest traffic had, at December 31, 1944, 28 miles of 131-lb., 950 miles of 110 or 112-lb., 36 miles of 100-lb., and 81 miles of 90-lb. rail. Of the remaining mileage, 79 per cent was laid with 90-lb. or heavier rail. The present standard for renewal of rail is 131-lb. in single track sections between Chicago and Buffalo, and 112-lb. in all other sections of heavy traffic lines. At the end of 1944 the average weight of rail per yard in main tracks was 101.59 lb., as compared with an average of 80.74 lb. at the end of 1922. For many years the company has been using treated ties in maintenance, and 98 per cent of the ties in all tracks were treated ties in good condition at December 31, 1944. All of the ties in the tracks carrying the heaviest traffic and a majority of the ties in all other tracks are adequately protected with tie plates.

At February 28, 1945, the number of units in the company's locomotive, car and service equipment, with the number held under equipment trusts shown in parenthesis, was as follows: 365 locomotives (85); 14,152 freight cars (7,052); 90 passenger cars (8); and 916 service equipment.

Eighty-five of the locomotives and 7,643 of the freight train cars have been acquired and placed in service since January 1, 1934. As of February 28, 1945, as reported to the Interstate Commerce Commission, 27 locomotives, or 7.4 per cent of the number in service, were undergoing or awaiting classified repairs, and 139 freight train cars, or 1 per cent of the number in service, were undergoing or awaiting heavy or general repairs.

Shops and Yard Facilities

The company owns and operates shops and facilities for maintaining its equipment, and also owns and operates freight yard facilities at all principal terminals (except Peoria, Ill.), the largest of which are located at Chicago, Bellevue, Ohio, Frankfort, Ind., Buffalo, N. Y., and Madison, Ill. Power operated tools and mobile off-track machines are being used extensively in roadway and track maintenance.

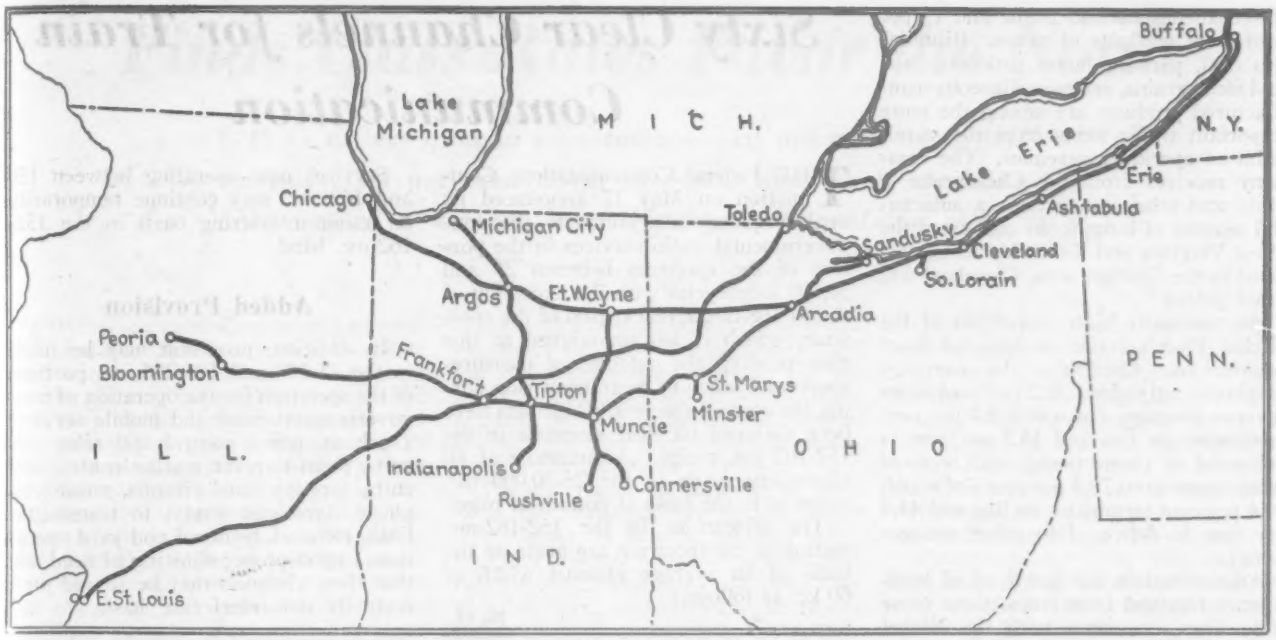
Since the sharp rise in earnings that began in 1941, the Nickel Plate has undertaken numerous projects designed to effect operating economies and has expended from treasury funds more than $6,700,000 on road improvements. This program included the installation of centralized traffic control on 94 miles of line; the rebuilding and strengthening of bridges and enlargement of engine repair facilities where necessary to permit the operation over all of the company's heavy traffic lines of the heavy freight locomotives required in recent years; and the construction of a complete westbound classification yard at Frankfort, Ind., and of additional passing sidings and yard tracks at various locations. Work now under construction includes centralized traffic control on an additional 31.5 miles of line, which is expected to be in service by September 1, 1945, and additions to roundhouse and machine shop facilities at Conneaut, Ohio.

During the past two years a program

Table II—Summary of Earnings

First Three Months	Railway Operating Revenues	Railway Operating Expenses	Operating Ratio %	Railway Tax Accruals	Net Railway Operating Income	Income Available For Fixed Charges	Fixed Charges	Net Income
1945	$24,961,255	$15,809,394	63.3	$4,154,935	$3,620,746	$3,871,275	$1,674,378	$2,196,897
1944	25,653,531	15,137,258	59.0	6,119,201	2,825,714	3,101,062	1,330,910	1,770,152
Years								
1944	$100,458,548	$60,618,755	60.3	$23,173,015	$11,290,714	$12,536,436	$5,310,512	$7,225,924
1943	100,093,565	54,585,505	54.5	26,564,020	13,265,201	14,788,709	5,600,683	9,188,026
1942	88,742,413	46,470,511	52.4	22,827,546	13,222,981	14,524,558	5,833,987	8,690,571
1941	60,219,289	34,961,299	58.1	3,579,564	17,568,115	19,561,093	6,874,402	12,686,691
1940	46,423,402	31,111,419	67.0	3,204,568	8,492,405	10,644,686	7,033,857	3,610,829
1939	43,175,402	28,559,574	66.1	2,742,020	8,437,279	10,463,603	7,092,401	3,371,202
1938	36,381,231	26,025,858	71.5	2,263,117	5,058,132	6,140,890	7,200,394	1,059,504*
1937	41,612,266	28,395,482	68.2	2,364,229	7,660,564	10,015,918	7,360,357	2,655,561
1936	41,712,951	26,637,173	63.9	2,599,763	9,137,723	14,883,205	7,502,723	7,380,482
1935	34,243,513	23,107,185	67.5	1,334,324	6,759,546	8,581,792	7,465,863	1,115,929

* Deficit.
Note A—The increased fixed charges for the first three months of 1945 were occasioned by duplicate interest incurred in connection with sale of series D bnods and retirement of previously outstanding bonds.
Note B—Annual requirements for interest and other fixed charges, based on the company's capitalization to be outstanding on completion of the present refinancing, will be approximately $3,821,000.



of replacing old and obsolete shop machinery with new and modern shop machines and tools has been under way and will be completed during the current year.

Scheduled Improvements

Improvements authorized to be undertaken during 1945 include the renewal of six bridges totaling 3,200 ft. in length; the installation of automatic signals on 40 miles of track on the St. Louis Division; the extension of five passing sidings on the Fort Wayne Division; the construction of four interlocking plants; line improvements at two locations and grade improvement at one location; the installation of teletype over 700 miles of line; extension and addition to the westbound yard at Bellevue, Ohio; the construction of complete new engine terminal facilities at Bellevue and at (Calumet) Chicago; and the construction of a new passenger coach repair shop at (Calumet) Chicago.

Since the beginning of 1941, the Nickel Plate has purchased or ordered 55 new freight locomotives, 10 Diesel switching engines, 2,800 box cars, 1,050 hopper or gondola cars, 143 covered hopper cars, 50 flat cars, and other miscellaneous equipment, at an aggregate cost of $22,413,732. All of this equipment, except 500 box cars, which are to be delivered in 1945, has been received and placed in operation.

The company's property has been built up in the last 21 years through gross expenditures for road and equipment of more than $122,000,000. Owing to retirements and other adjustments, the net investment in the properties showed an increase of only $84,000,000, or 51 per cent, which compares with an increase of less than 24 per cent for all Class I railroads and lessors for the same 21 year period. Depreciation reserves for these years, excluding amortization of defense projects, increased about $21,500,000. As of February 28, 1945, the investment in defense project facilities which are being amortized over a five-year period was as follows: road property—$1,316,663; equipment—$20,065,970.

The company's properties as a whole are reported to have been adequately maintained and in good condition. Expenditures for maintenance of way and structures and maintenance of equipment, exclusive of depreciation, retirement and amortization charges, have been as follows since 1934:

	Maintenance of Way and Structures (exclusive of depreciation, retirement and amortization charges)	Maintenance of Equipment (exclusive of depreciation, retirement and amortization charges)
1944	$9,623,043	$10,182,458
1943	7,639,240	9,256,075
1942	6,534,601	7,853,713
1941	5,095,542	6,089,482
1940	4,522,591	5,741,019
1939	4,167,781	4,984,006
1938	3,566,994	4,106,141
1937	4,386,954	4,819,379
1936	4,043,898	4,375,340
1935	3,426,042	3,379,640

Interest in Other Railroads

The Nickel Plate owns free and clear certificates of deposit representing 14,800 shares of 5½ per cent preferred stock and 168,000 shares of common stock (32.88 per cent of the total outstanding stock) of the Wheeling & Lake Erie, and the Chesapeake & Ohio owns certificates of deposit representing 115,369 shares of 4 per cent prior lien stock, 1,658 shares of 5½ per cent preferred stock and 78,145 shares of common stock (35.11 per cent of the oustanding stock) of that company.

At the end of 1944, the Wheeling operated 507 miles of railroad, of which 471 were owned and 36 were operated under trackage rights. All of the lines are located in Ohio and extend from Toledo, Norwalk, Huron and Cleveland easterly and southerly to Canton, Zanesville, Steubenville, Warrenton and Terminal Junction (near Wheeling, W. Va.). The road reaches South Lorain over the line of its wholly-owned subsidiary, the Lorain & West Virginia, which owns and operates 25 miles of railroad. The Wheeling serves a territory devoted chiefly to manufacturing and to the mining of bituminous coal, and it owns terminal facilities for the handling of iron ore and coal at Huron on Lake Erie.

The Wheeling has paid dividends on its preferred stock at the rate of 5½ per cent regularly since August 1, 1936, and dividends on its common stock at varying rates since December 18, 1937 (excepting in 1938). Income received by the Nickel Plate on its Wheeling holdings in 1942, 1943, and 1944 have been as follows: 1942—$837,400; 1943—$837,400; and 1944—$585,400.

The Nickel Plate also owns free and clear 15,000 shares, or 50 per cent, of the outstanding capital stock of the Detroit & Toledo Shore Line, which operates a line (of which 47 miles are owned and 3 miles are trackage rights) between Toledo, Ohio, and Detroit, Mich., used exclusively for freight service. Dividends at varying rates have been received on this stock in every year since its acquisition in 1923, and recently as follows: 1942—$240,000; 1943—$345,000; 1944—$300,000.

The Nickel Plate also owns minority interests in a number of terminal and belt railway companies.

Traffic and Revenues

Approximately 93 per cent of the Nickel Plate's 1944 operating revenues were derived from freight traffic, of which about 59 per cent came from manufactures and miscellaneous and about 16 per cent from products of mines.

In 1940, approximately 95 per cent of operating revenues were derived from freight traffic, of which 44 per cent came from manufactures and

miscellaneous carload traffic and 19 per cent from products of mines. Bituminous coal, packing house products, iron and steel, grains, and miscellaneous manufactured products are among the more important traffic items from the standpoint of operating revenues. The company receives from the Chesapeake & Ohio and other connections a substantial amount of bituminous coal from the West Virginia and Kentucky fields, destined to the Chicago area, Cleveland and other points.

An unusually high proportion of the Nickel Plate's traffic is received from connections. Currently, the company originates only about 21.2 per cent of its revenue tonnage, (of which 5.7 per cent terminates on line and 15.5 per cent is delivered to connections) and receives from connections 78.8 per cent (of which 34.4 per cent terminates on line and 44.4 per cent is delivered to other connections).

Approximately one-fourth of all loaded cars received from connections come from lines associated with the Nickel Plate. The company delivers to such associated lines about one-third as many loaded cars as it receives from them.

New Industries

The lines of the Nickel Plate between Chicago and Buffalo and between St. Louis and Buffalo approximate the shortest rail distances between those points. The Nickel Plate is able to handle through bridge line traffic in an efficient and expeditious manner, which accounts in part for the substantial volume of this type of business that has been enjoyed by the road for many years.

During the past five years there were located along the line of the Nickel Plate 116 permanent industries and, in addition, 19 new government-owned and financed installations, some of which have multiple conversion possibilities, and a few of which have practically no future use.

Soybeans are an excellent example of the development of a product during war-times for new and substitute uses. The Nickel Plate traverses the core of the soybean area and there are 15 soybean processing plants located in Nickel Plate towns; two of these are currently under construction.

Unification with C. & O.

Much consideration has been given to a consolidation or other unification of the Nickel Plate with the C. & O., the Pere Marquette and the Wheeling & Lake Erie.

The Chesapeake & Ohio's stock interest in the Nickel Plate and the Wheeling, and the Nickel Plate's interest in the Wheeling, have been indicated above. The C. & O. also owns, either directly or indirectly, 48 per cent of the Pere Marquette's stock. As yet, no plan for a combination of any of these roads has been presented to the various boards of directors.

Sixty Clear Channels for Train Communication

THE Federal Communications Commission on May 17 announced its final frequency allocations to the non-governmental radio services in the portion of the spectrum between 25 and 30,000 megacycles with the exception of the 44-108 megacycle region of the spectrum, which is left unassigned at this time pending the outcome of measurements and tests of f.m. transmission during the coming summer. Railroads have been assigned 60 clear channels in the 152-162 mc. range. A summary of all allocations made in the 25-30,000 mc. range is in the table at bottom of page.

The allocations in the 152-162-mc. section of the spectrum are made on the basis of an average channel width of 60 kc. as follows:

Class of Station	No. of Channels
Police	36
Fire	12
Provisional and Experimental	2
Relay Press	4
Forestry-Conservation, Geophysical	
Power, Petroleum, etc.[4]	6
Maritime Mobile*	8
Urban Mobile**	24
Rural Subscriber Telephone	
Short Distance Toll Telephone	
Relay Broadcast	12
Motion Picture, Geophysical, Forestry-Conservation	
Provisional and Experimental	2
Railroads	60

Services now operating between 156 and 162 mc. may continue temporarily on a non-interfering basis in the 152-162-mc. band.

Added Provision

In addition, provision may be made in the 44-108 and 186-216 mc. portions of the spectrum for the operation of non-governmental fixed and mobile services (such as, police control and relay circuits, point-to-point marine control circuits, forestry fixed circuits, rural telephone, broadcast studio to transmitter links, railroad, terminal and yard operations) upon proper showing of need and that these channels may be shared on a mutually non-interfering basis.

Notes to table at left—

* Other classes of stations rendering similar radio services.

** May provide radio communication service to all types of mobile units such as marine, land vehicles, aircraft, etc. Pending final determination of the best method of operation of this service these channels will be assigned on an experimental basis—12 for development on a common carrier basis, 4 for trucks and 4 for buses, except in those cases where it is shown that a different distribution is more desirable.

Channel Assignments Between 25 Mc. and 162 Mc. to Non-Governmental Services

Service	January 16, 1945 Proposed Report			Draft Final Report		
	Non-Sharing	Sharing*	Total	Non-Sharing	Sharing	Total
Police	122	0	122	132	0	132
Fire	35	0	35	39	0	39
Provisional	0	26[1]	26	0	36[2]	36
Power, Petroleum, etc.	21	0	21	31	0	31
General Highway Mobile	24	0	24	40	0	40
Marine Mobile	0	16[3]	16	8	15[4]	23
Special Emergency	10	0	10	6	10[5]	16
Urban Transit	0	10[5a]	10	0	17[6]	17
Urban Mobile	0	7[7]	7	24	0	24
Forestry & Conservation	23	37[8]	60	25	34[9]	59
Aeronautical (Flying School & Flight Test)	0	4[10]	4	7	0	7
Railroads	33	0	33	60	0	60
Geophysical	0	35[11]	35	0	49[12]	49
Relay Press	0	26[13]	26	0	10[14]	10
Relay Broadcast	0	20[15]	20	0	30[16]	30
Motion Picture	0	26[17]	26	0	18[18]	18
General Experimental	30	4[19]	34	0	26[20]	26
Rural Subscriber Telephone	0	0	0	0	24[21]	24
Total	298	217	515	372	275	647

* The television channels subject to sharing are not shown in this table.

[1] Shared with motion picture, relay press, relay broadcast and geophysical.

[2] 21 shared with general experimental, 10 shared with special emergency, and 5 shared with urban transit and general experimental.

[3] 9 shared with geophysical, 7 shared with forestry, conservation and urban mobile.

[4] 9 shared with geophysical, 6 shared with forestry and conservation.

[5] Shared with provisional.

[5a] Shared with forestry and conservation.

[6] 12 shared with forestry and conservation, and 5 shared with provisional and experimental.

[7] Shared with forestry and conservation and marine mobile.

[8] 10 shared with urban transit, 20 shared on secondary basis with fire, 7 shared with marine mobile and urban mobile.

[9] 6 shared with maritime mobile, 12 shared with urban transit, 4 shared with relay press and geophysical, and 12 shared with relay broadcast, motion picture and geophysical.

[10] Shared with general experimental on temporary basis.

[11] 26 shared with provisional, motion picture, relay press and relay broadcast, 9 shared with maritime mobile.

[12] 24 shared with relay broadcast; 9 shared with maritime mobile; 4 shared with relay press, forestry and conservation; 12 shared with relay broadcast, motion picture, forestry and conservation.

[13] Shared with provisional, motion picture, relay broadcast and geophysical.

[14] 6 shared with motion picture, 4 shared with forestry, conservation and geophysical.

[15] Shared with provisional, motion picture, relay press and geophysical.

[16] 24 shared with geophysical, 12 shared with motion picture, geophysical, forestry and conservation.

[17] Shared with provisional, relay press, relay broadcast and geophysical.

[18] 6 shared with relay press, 12 shared with relay broadcast, geophysical, forestry and conservation.

[19] 4 to be used temporarily by flying schools.

[20] 21 shared with provisional and 5 shared with urban transit and provisional.

[21] Shared with urban mobile and short distance toll telephone circuits.

Finds Class Rates Favor the North

I. C. C. orders interim adjustments—10 per cent up in Official territory, 10 per cent down in South and West—pending the adoption of a uniform classification and uniform class rates

WASHINGTON, D. C.

THE Interstate Commerce Commission has found the railroad class rate structure now in effect in all parts of the country except Mountain-Pacific territory to be unreasonable, and has ordered (1) a general increase of 10 per cent in class rates applicable within Official territory and (2) a general decrease of 10 per cent in class rates applicable within and between Southern, Western Trunk-line, and Southwestern territories and between those territories on one hand and Official territory on the other, subject to prescribed distance rates as minimum.

Final Adjustment Far Off

These class rate adjustments are to be effective August 30. They were described as *interim* changes designed to afford "a temporary measure of relief," pending (1) establishment of a uniform freight classification to be effective throughout the country, including the Mountain-Pacific territory, and (2) simultaneous uniform application in all territories except Mountain-Pacific of a prescribed scale of class rates. The existing classifications were found to be unreasonable and unduly prejudicial as a whole and to the extent that they are not uniform; and the carriers are allowed 90 days in which to indicate whether or not they will undertake to prepare and submit a uniform classification for the entire country (having the general basis of the Official Classification) for the commission's approval.

These far-reaching decisions of the commission were made public May 19 in a 300-page combined report dealing with its Nos. 28300 and 28310 proceedings, designated, respectively, as the Class Rate Investigation of 1939 and the Consolidated Freight Classification Investigation. They represented, in general, the views of 9 of the commission's 11 members, including Commissioner Johnson, although Commissioners Patterson and Mahaffie, included in the majority, presented separate opinions indicating their disagreement with important aspects of the majority report. Commissioner Porter dissented on the ground that the *interim* rate changes laid down by the majority are undesirable, it being his view that a "permanent and stable" rate adjustment should be made now, rather than in the "distant future." Commissioner Barnard was the only member to disagree with the majority view that uniform class rates should be established in the region east of the Rocky Mountains. He agreed that a uniform classification should be established, but expressed the view that the record did not include adequate evidence for the majority's finding that the general basis of the present Official classification should be adopted for the uniform classification for the whole country.

The decision of the majority to order a "simple and direct" rate revision effective August 30, to serve pending adoption of a uniform nation-wide classification on which uniform class rates may be established, was dictated, the report indicated, by its recognition, first, of the inevitable "complexities inherent in a task of such character and magnitude," and second, of the shortage of men available at the present time for such work, due to the "active participation in the war" of many of them. "From our prior experience with extensive rate readjustments and classification proceedings," the majority said, "we know that necessarily considerable time must elapse before the respondents can formulate and tender for our approval a classification which will conform to our finding with respect to justness, fairness, and reasonableness."

The 10 per cent increase in Official territory class rates, and the 10 per cent decrease effective in Southern, Southwestern, and Western Trunk-line territories, and interterritorially, "will greatly reduce the differences in the levels of the class rates in the various class-rate territories, and will bring to a minimum the undue prejudice" now suffered by the latter-named territories, according to the majority finding, and thus "will approach, as a preliminary step, the uniformity of class rate structure" which has been found just and reasonable, until a "complete revision" can practicably be accomplished.

Eastern Roads Need Revenue

In those territories in which a decrease in class rates has been ordered, the commission has directed that the present current applicable class 1 rates be taken as a base upon which a 10 per cent reduction is to be applied, subject to observance of the rates set out in a prescribed distance scale (Table I) as minima. The rates on all other classes in each class rate system are to be correspondingly reduced by observing the same percentage relations to the reduced class 1 rates that such classes now bear to the existing class 1 rates. No changes in existing "exception" rates or "column" rates are contemplated in this finding, the report pointed out, nor is any increase in any existing class rate to be made thereunder in those territories in which the decrease is effective, or interterritorially. Groupings in connection with present rates are not to be disturbed, and in applying the prescribed scale of minimum rates, distances between groups or blocks of stations are to be employed, rather than actual mileages, where there are differences.

Simultaneously with the reduction thus ordered, the maximum class rates now effective within Official territory, including Illinois territory, are to be increased by using the current applicable class 1 rates as a base and increasing them 10 per cent. Likewise, the rates on other classes are to be increased so that the present percentage relations to the maximum class 1 rates shall be undisturbed. The provisions as to "exception" rates and "column" rates and as to groupings and determination of distances set forth for the other territories are also applied to Official territory.

The majority's decision to increase class rates in Official territory was based, the report indicated, on its finding that "the revenue needs of the carriers in Official territory with respect to their class rate traffic are greater than is the case as to the class rate traffic in the other territories" included in the proceedings.

Raise Minimum on L.c.l.

Upon analysis of the evidence in the record with respect to less-than-carload rates and costs, the majority found "unmistakably" that the l.c.l. traffic generally in all of the territories "is not bearing its proper share of the costs of transportation—in fact, excluding wartime loading, it is not yielding, on the average, its out-of-pocket costs plus constant expenses solely related to this traffic, plus the cost of collection and delivery, in any territory except possibly in the Southern where the margin of difference between revenues and these expenses is slight." At present all classifications provide for a flat minimum charge of 55 cents on each l.c.l. shipment. In view of its finding that l.c.l. traffic does not bear its proper share of costs, the majority has directed that this uniform minimum charge be increased to 75 cents per shipment, effective August 30.

While taking the position that the adjustments ordered to be put into effect August 30 will bring about a sufficiently close approach to uniformity in rates within and between the territories in-

volved to remove the undue and unreasonable prejudice and disadvantage under which the majority finds shippers on class rates in the South and West, generally speaking, to be laboring, it holds that a more fundamental and comprehensive modification of the present class rate structure is necessary to bring about that degree of uniformity in rates, based on a uniform classification, which it considers essential to comply fully with the requirements of sections 1(4), 1(5) and 3(1) of the Interstate Commerce Act.

As a prerequisite to the establishment of a permanent class rate structure providing uniformity in rates throughout the area east of the Rocky Mountains, the majority would replace the existing Official, Illinois, Southern, and Western classifications, insofar as the ratings therein are concerned, with a single uniform classification to apply throughout the country, and the carriers are expected to establish such a uniform classification "within a reasonable time." The existing Official classification, the majority holds, "comports better with the requirements of the statute that the classification should be just and reasonable" than the others now in use, so it finds that the "general basis of the Official classification, including the percentage relation between the classes, would be just and reasonable for application uniformly." The report went on to indicate that the uniform classification should include the following classes: 400, 300, 250, 200, 175, 150, 125, 100 (that is, class 1), 92.5, 85, 77.5, 70, 65, 60, 55, 50, 45, 40, 37.5, 35, 32.5, 30, 27.5, 25, 22.5, 20, 17.5, 16, 14.5, and 13.

Requires "Collective Action"

Only with such basically uniform classification ratings in effect throughout the country, the majority holds, is it possible to maintain a just and reasonable relation between the class rates on commodities moving in carload and l.c.l. lots, or as between competing commodities moving at class rates. The majority concludes, also, that it is "entirely feasible" for the carriers to "establish, observe, and enforce" such uniformity, and they are "given reasonable opportunity to initiate such uniform classification by their own collective action before we undertake the task." However, if they should fail within 90 days to advise the commission that they will undertake to "make and tender" a classification which will meet the requirements set forth in the report, or if they should decline so to undertake, the commission has retained jurisdiction "to make such further order in the premises as may be proper."

"It is apparent from the record," the majority holds, "that members of the classification committees, who have expert knowledge of transportation, economic, production, commercial, and industrial conditions sufficient to determine ratings within these extensive classification territories and between them, acting as one committee, if willing, could initially decide upon uniform ratings for the entire country throughout which they now determine the ratings, with close approximation to the standards of justness and reasonableness laid down in the act. They have done so, but only in part."

Exceptional Ratings Permissible

The report pointed out, however, that "it is not intended that the foregoing findings with respect to uniformity shall prevent the making of exceptional classification ratings when required either by the provisions of the Interstate Commerce Act or for commercial or competitive reasons, provided such exceptional ratings may be justified individually upon their own merits," and are otherwise lawful.

The uniform classification which the majority finds to be necessary to comply with the requirements of law "must be closely connected with the class scale or class scales which are to be applied, both to insure proper preservation of revenue for the carriers and that the rates shall be just and reasonable as respects the shipper," the report pointed out, whence it went on to the conclusion that the uniform rates which the majority seeks to have ultimately applicable throughout the area east of the Rocky Mountains should become effective simultaneously with the uniform classification.

As an indication of the character of the uniform rates which should meet the majority's specifications, the report indicated that application of a prescribed scale of rates (Table II), as a maximum for class 1, would be considered just and reasonable. In general, the rates that thus would be established uniformly throughout the country, except in the Mountain-Pacific territory, would be about 115 per cent of the now existing Official territory rates. The majority findings provide further that key point class rates based on the prescribed scale may be established, subject to commission approval, between points where such rates have been approved in prior general class rate revisions.

In analyzing the importance of class rate traffic to the carriers, and in comparing the effect on industry in various regions of the rate structure now prevailing and that contemplated by the adjustments required by the present decision, the majority first described the various types of rates in these terms:

Freight rate structures are composed of (1) class rates, governed either by the ratings in a standard freight classification or by exceptions to the classification (exceptions are of two types, those that transfer the rates on an article from one standard class rate column to another, and those that utilize intermediate columns in the system of class rates not assigned to any standard class); (2) "column" rates, which apply to specific commodities or groups of commodities and thus assume the nature of commodity rates, but follow the contour of class rate scales by being established as fixed percentages of the first class rates; and (3) commodity rates, which are published to apply on particular commodities, but are not related by definite percentages to the first class rates. "Exception" rates and "column" rates which, in some instances, apply throughout a particular territory and, in others, to limited portions of the territory or between particular points, are usually designed to fit the special conditions relating to the transportation of a single commodity or group of commodities. The principal reasons usually assigned for relating rates to first class rates by definite percentages are: (1) simplicity of publication and (2) the advantage of fourth section relief already granted in connection with the class rates.

The report then pointed out that, "from the standpoint of the volume of traffic transported, class rates are the least important of the different kinds of rates. The great preponderance of traffic within and between the several territories is transported on commodity rates. The relative proportion of traffic transported at class or other rates has fluctuated from time to time, but the volume of traffic, particularly carload traffic on which class rates have applied has been substantially less for many years than that on which exception rates have applied. Motor vehicle competition has accelerated the establishment in recent years of numerous exception and commodity rates, even on less-than-carloads."

The report then went on to set forth the results of a study of the movement of all carload traffic transported on September 23, 1942, and of the revenue received therefrom, the purpose of which was to obtain a "rough approximation" of the relative importance of traffic moving on class, exception, and commodity rates. For the entire United States, this study indicated that 4.1 per cent of the tonnage handled moved on class rates, 10.7 per cent on "exception" rates, and 85.2 per cent on commodity rates. For the entire United States, 6.3 per cent of the revenue was yielded by traffic moved on class rates, 16.1 per cent on "exception" rates, and 77.6 per cent on commodity rates.

The results of the study of traffic handled on the different rates were further broken down to indicate the percentage distribution by carloads of carload freight within and between all territories except Mountain-Pacific. These data are shown in Table III.

See Little Difference in Costs

The majority's conclusion that uniformity should be accomplished, eventually, by increasing the class rates now in effect in Official territory about 15 per cent, as prescribed in the scale included in the report, would involve reductions of varying percentages of the present class rates prevailing in the Southern, Southwestern, and Western Trunk-line territories, since there is a substantial variation in the percentage

relations under the scales now in effect, depending on the distances involved, as shown in Table IV. On this basis of comparison, on the average, the current rates in Southern territory are 137.7 per cent of Official territory rates, while those in Western Trunk-line territory vary, according to intraterritorial zones, from 129.6 per cent to 159.4 per cent of Official territory rates for equal distances.

These differences, according to the majority report, have resulted in the greatly diminished use of class rates, and the establishment of the numerous "exceptions" and "column" and commodity rates, on a lower level than class rates, as indicated in Table III. Further pressure on the class rate structure, except in Official territory, has resulted from the development of manufactures in the South and West, with a corresponding demand for rates which will permit the free movement of the manufactured articles.

"Official territory," the majority points out, "is the greatest consuming territory in the country, and is the market that nearly all manufacturers desire to reach, particularly when they have a surplus of their products to sell. In shipping to Official territory, manufacturers in the other territories not only have the disadvantage of location," it says further, "but are subjected to an additional burden in those instances where they must pay class rates on a much higher level than their competitors in Official territory. This situation," in the opinion of the majority, "reacts to the disadvantage of manufacturers in the other territories, and to the advantage of those in Official territory, tends to restrict the growth and expansion of the manufacturers in the other territories, and, to some extent, to prevent the establishment of new manufacturing plants in those territories."

"It is clear," the report continues, "that the method of distribution of the rate burden between types of traffic now observed in Southern, Southwestern and Western Trunk-line territories has resulted in rates so high that they have prevented the free movement of traffic at the rates in issue. This result is fully proved by the fact that numerous lower exception and commodity rates which move the great preponderance of the traffic and produce the great preponderance of the revenues in those territories, have been established."

Commodity Rates May Go Up

The arguments of the carriers in the South and West, and of shippers who now benefit by the generally favorable level of commodity rates prevailing in those sections, as compared to those in Official territory, to the effect that "exception, "column," and commodity rates in the South and West will have to be revised upward, if class rates are reduced, in order that the railroads may recoup revenue lost from the reduced class rates, "are not an answer," the majority holds, to the claim that the relatively higher class rates in those territories are not justified by transportation conditions.

"Considerations of costs of service, consists of the traffic, distribution of the rate burden, and other factors usually given weight in determining lawful rates justify the conclusion," says the majority report, that the class rates within and between Southern, South-

Table I

Minimum Class 1 (Class 100) Rates Prescribed for Southern, Western Trunk-Line, and Southwestern Territories

Miles	Cents	Miles	Cents	Miles	Cents	Miles	Cents	Miles	Cents
5	40	160	82	580	152	1150	234	1775	311
10	43	170	84	600	155	1175	237	1800	313
15	46	180	86	620	158	1200	240	1825	316
20	48	190	88	640	161	1225	244	1850	319
25	50	200	90	660	164	1250	247	1875	322
30	52	210	92	680	167	1275	250	1900	324
35	54	220	94	700	170	1300	253	1925	327
40	56	230	96	720	173	1325	257	1950	330
45	58	240	98	740	176	1350	260	1975	332
50	60	260	102	760	179	1375	263	2000	334
55	61	280	106	780	182	1400	266	2025	337
60	62	300	110	800	185	1425	269	2050	340
65	63	320	113	825	189	1450	272	2075	342
70	64	340	116	850	193	1475	275	2100	344
75	65	360	119	875	196	1500	278	2125	347
80	66	380	122	900	199	1525	281	2150	349
85	67	400	125	925	203	1550	284	2175	351
90	68	420	128	950	207	1575	287	2200	353
95	69	440	131	975	210	1600	290	2250	357
100	70	460	134	1000	213	1625	293	2300	361
110	72	480	137	1025	217	1650	296	2350	365
120	74	500	140	1050	221	1675	299	2400	368
130	76	520	143	1075	224	1700	302	2450	372
140	78	540	146	1100	227	1725	305	2500	375
150	80	560	149	1125	231	1750	308		

Table II

Scale of First Class Rates (Class 100) Prescribed for Final Application in All Territories Except Mountain-Pacific

(These rates are to be applied simultaneously with the uniform classification)

Miles	Cents	Miles	Cents	Miles	Cents	Miles	Cents	Miles	Cents
5	40	160	82	580	152	1150	234	1775	311
10	43	170	84	600	155	1175	237	1800	313
15	46	180	86	620	158	1200	240	1825	316
20	48	190	88	640	161	1225	244	1850	319
25	50	200	90	660	164	1250	247	1875	322
30	52	210	92	680	167	1275	250	1900	324
35	54	220	94	700	170	1300	253	1925	327
40	56	230	96	720	173	1325	257	1950	330
45	58	240	98	740	176	1350	260	1975	332
50	60	260	102	760	179	1375	263	2000	334
55	61	280	106	780	182	1400	266	2025	337
60	62	300	110	800	185	1425	269	2050	340
65	63	320	113	825	189	1450	272	2075	342
70	64	340	116	850	193	1475	275	2100	344
75	65	360	119	875	196	1500	278	2125	347
80	66	380	122	900	199	1525	281	2150	349
85	67	400	125	925	203	1550	284	2175	351
90	68	420	128	950	207	1575	287	2200	353
95	69	440	131	975	210	1600	290	2250	357
100	70	460	134	1000	213	1625	293	2300	361
110	72	480	137	1025	217	1650	296	2350	365
120	74	500	140	1050	221	1675	299	2400	368
130	76	520	143	1075	224	1700	302	2450	372
140	78	540	146	1100	227	1725	305	2500	375
150	80	560	149	1125	231	1750	308		

Table III

Percentage of Total Carload Traffic handled on Each Type of Rate

Territory	Class Rates	"Exception" Rates	Commodity Rates
Intraterritorial:			
Official	5.8	17.6	76.7
Southern	1.8	6.0	92.2
Western Trunk-line	0.6	0.2	99.2
Southwestern	2.4	4.4	93.2
Interterritorial:			
Official to Southern	12.6	36.3	51.1
Southern to Official	0.9	4.9	94.2
Official to Western Trunk-line	12.3	35.4	52.3
Western Trunk-line to Official	3.1	1.0	95.1
Official to Southwestern	22.5	52.0	25.5
Southwestern to Official	1.5	3.4	95.9
Southern to Western Trunk-line	1.5	13.5	85.0
Western Trunk-line to Southern	6.1	3.1	90.8
Southern to Southwestern	6.1	22.1	71.8
Southwestern to Southern	1.2	4.3	94.5
Southwestern to Western Trunk-line	2.0	3.0	95.0
Western Trunk-line to Southwestern	13.0	6.2	80.8

Table IV

Comparison of Existing First Class Rates in Various Territories

		Percentage of Official Territory Rate			
			Western Trunk-Line Territory		
Miles	Official Territory rate in cents	Southern Territory	Zone I	Zone II	Zone III
50	47	121.3	112.8	129.8	138.3
100	62	127.4	117.7	133.9	145.2
150	73	131.5	117.8	134.2	146.6
200	80	140	121.3	138.8	153.8
300	96	139.6	121.9	139.6	153.1
400	109	143.1	124.8	143.1	157.8
500	122	141.8	127.9	145.9	160.7
600	135	140	130.4	148.1	163
700	149	138.3	131.5	149	163.8
800	160	138.8	131.3	149.4	164.4
900	171	137.4	132.2	149.7	164.9
1000	182	136.8	131.9	150	164.8
Average		137.7	129.6	144.4	159.4

western and Western Trunk-line territories, and between those territories and Official territory, are unduly preferential of Official territory and prejudicial to the others.

A substantial part of the report is devoted to a consideration of the relative cost studies made by Dr. Ford K. Edwards of the commission's staff, and others introduced into the record, and from these data the majority concludes that "there is little significant difference in the cost of furnishing transportation in the South as compared to the East, excluding the Pocahontas territory. The figures both for the year 1939 and the period 1930-1939 indicate that, taken as a whole, the costs in the South are equal to or a little lower than those in the East . . . The unit costs of rendering transportation service in the South increase more rapidly with declining traffic volume and decrease more rapidly with increasing traffic volume than is true for the East. On the basis of the 1939 figures, the costs for the East, including New England but excluding Pocahontas, are approximately the same as the costs for the South, excluding the state of Kentucky . . . Less-than-carload traffic, as a whole, is carried at a deficit in all territories, except possibly in the South."

The report went briefly into the matter of the relative levels of freight revenues in the South and West, as compared to the East. The conclusion was reached that the southern level of freight revenue is about 3.9 per cent above that for the East (subject to an adjustment of perhaps one per cent because of the effect of commodity class revenues, which are stated on a gross revenue basis), and that the actual gross revenue in the West exceeds by 16.6 per cent the constructive gross revenue obtained by applying the eastern revenue level to western traffic. (On the other hand, figures compiled by the Bureau of Railway Economics indicated that the average revenue per ton-mile in 1944 was 0.967 cents for the Eastern district, 0.871 cents for the Southern district, and 0.972 cents for the Western district. For 1939, the averages were, in the same order, 1.007 cents, 0.839 cents, and 1.021 cents. For 1929, the averages were: 1.090 cents, 0.903 cents, and 1.162 cents.)

Southern Governors Active

Thus, in effect, the commission majority has undertaken to resolve the vexing uniform classification and class rate questions which have occupied a substantial portion of its time and energy in recent years, particularly since July 29, 1939, when the Nos. 28300 and 28310 investigations were formally ordered on the commission's own motion. They constitute, in the commission's opinion, "a highly important first step" in the general investigation into the rates on manufactured products, agricultural commodities, and raw materials, which Congress directed it to make in section 5(b) of the Transportation Act of 1940.

But the No. 28300 proceeding, as the record developed, proved to be another forum in which certain groups of shippers in the South, conspicuously represented by the Southern governors, some congressmen from that section, and the Tennessee Valley Authority, among others, could and did press their campaign to secure for that region class rates as low as those prevailing in the North, that is, in Official territory, and so, as they argued, to free the industrially-backward South (and West) from the "economic bondage" in which the North, by means of allegedly prejudicial freight rates, was determined to hold it. Thus the investigation became somewhat closely related to the less general proceeding (No. 27746), commonly known as the Southern governors' rate complaint, which the commission decided (favorably, at least in principle, from the Southern governors' viewpoint) in 1939, as reported in *Railway Age* of December 9, 1939, page 889.

Eastman's Warning

As noted there, the late Commissioner Eastman, in dissenting from the decision of the majority in that case, pointed out that "the commission is called upon to decide this case, on the record, after it has in effect been decided, in advance and without regard to the record, by men in public life, of high and low degree, who have freely proclaimed their views on what they conceive to be the basic issues."

"Their thesis," he said further, "has been that the section of our country generally known as the South is our 'Economic Problem No. 1,' because, among other things, it is low in industrial development, and that a major reason for this condition has been and is an unfair adjustment of freight rates which has favored the producers of the North and burdened those of the South. It has become a political issue."

Although the Nos. 28300 and 28310 proceedings were originally interpreted as a move to deal with conditions wherein railroad-proposed all-commodity and all-freight rates, designed to meet truck competition, were thought to be threatening a progressive undermining of the class rate structure and classification, the interests upholding the South's viewpoint, apparently having tasted blood in the Southern governors' case, quickly entered the proceedings and dominated the trend of the testimony, so that the matter of interterritorial rate disparity became the fundamental point involved. And, as the investigation proceeded, supplementary moves outside the commission's jurisdiction, such as the anti-trust suit filed by the Department of Justice against the western railroads and the conspiracy allegations which the Supreme Court has agreed to allow Governor Arnall of Georgia to attempt to prove against selected southern and eastern roads, further indicated the determination of the interests seeking uniform class rates to use every weapon available to them to forward their campaign.

Disagreement with the conclusions of the majority in Nos. 28300 and 28310 were expressed by Commissioners Porter and Barnard. The former asserted that the majority's action would "set aside long-established principles of rate making under which this country has become great and has developed the most efficient transportation system in the world" in an attempt to "equalize fortune, opportunities, and abilities," contrary to the purposes of the Interstate Commerce Act.

"I have no difficulty in agreeing that the evidence does warrant a finding of unreasonableness of the intraterritorial rates within the South and the West, as well as of the interterritorial rates between the respective territories, and that they should be substantially reduced," said Commissioner Porter. "In order to bring together the class rate structures still more closely than would result under such a finding of unreasonableness, I favor affording the eastern carriers the opportunity to make some increases in their class rates, but not by as much as 15 per cent or even by 10 per cent. To increase the eastern rates, especially on carload traffic, by either of the latter percentages will cast a heavy and unwarranted burden upon the Official-territory shippers of class-rate traffic.

"On a large proportion of the traffic which formerly moved, and normally should move, on class rates in Official territory, exception or commodity rates have been established. . . . The effect of what the majority require here, therefore, is to heap a further burden on those shippers, generally the small shippers, whose rates have never been reduced below the class basis, thus widening the advantage already enjoyed by those, mostly the large shippers, whose rates have been accorded special treatment. It may be confidently expected, if the eastern class rates are increased by 10 per cent, and especially by 15 per cent, either that much of the present class rate traffic in Official territory will be accorded exception or commodity rates on about the same level as the existing class rates, in which event the uniformity here aimed at will be largely destroyed, or that there will fall into the lap of this commission a swarm of meritorious complaints against the resulting wholesale violations of the discrimination provisions of the act."

Porter Suggests Alternatives

A permanent rate basis need not await a uniform classification, Commissioner Porter went on to say, and he gave the opinion that such a classification would not be realized "for at least another 10 years." He offered alternate proposals for modifications of the existing rate structures because, he said, "I favor bringing together much more closely than they are now the respective class rate structures of the country." While agreeing "in principle" that a uniform classification would be desirable, he ex-

pressed doubt that such a difficult job should be undertaken at this time. And he was not in accord with the majority view that the pattern of the present Official classification "best comports with the requirements of the statute." Such a "pattern," he said, is "worse than no pattern at all."

Commissioner Porter's objections to the majority's report were: (1) its "one-sided and inadequate statement of a number of the important facts"; (2) that its uniform class rate scale, and the manner in which it would be put into effect, "ignore and are contrary to the best interests of the shipping public, as well as of the railroads"; and (3) that the interim changes contemplated by the majority "fall below the relief to which the southern and western shippers are presently entitled." To use a cost study to fix the rate relations between the several territories, he added, "is a dangerous policy, which is likely to plague this commission for years to come," as it is plain that, if such a study "can be and is used as a vehicle for forcing uniformity in class rates, the same study can and probably should be used as an excuse for forcing uniformity in all rates, exception and commodity rates included."

Commissioner Barnard was "unable to find in this record sufficient evidence to support the claim of the Southern Governors' Conference that the class rate structures within the South and between the South and Official territory have restricted the industrial growth of the South." Nor, he continued, does the evidence justify the reductions ordered in the majority report. "Although it appears that the differences between the class rates in Official territory and those in the other territories may be too great, there is nothing in this record which warrants the conclusion that the class rates throughout the entire area east of the Rocky mountains should be on a uniform basis or level. However desirable a uniform system of class rates may be, if in order to accomplish that uniformity it becomes necessary to disrupt the existing rate structures without sufficient evidence as to the propriety of such uniformity, and without the rates involved having been condemned, the end does not justify the means, and such action cannot have my support."

Shippers Bewildered

Opinions for publication by shipper and carrier spokesmen on the class rates decision—aside from those of jubilant protagonists of political rate-making—were hard to come by during the first few days following the publication of the commission's decision.

One prominent shipper who may not be quoted expressed "surprise" that Commissioner Alldredge had participated in the disposition of the case, since, before his appointment to his present post, he had been associated with T. V. A., one of the principal and original contenders for a revision of class rates according to the pattern that the Commission has now adopted. This shipper also marveled at the Commission's having "repudiated its own offspring," namely the class-rate structure in the East which was not a railroad creature, but that of the Commission.

The Trunk-line traffic executives were in session on May 23, and E. H. Burgess, their chairman, was not available for comment. C. E. Johnston, chairman of the Western Association of Railway Executives, was away from his office on May 22 and his views could not, consequently, be ascertained.

What Will Happen to Dixie?

J. G. Kerr, chairman of the Southern Freight Association, telegraphed to *Railway Age* on May 22 as follows:

"Have not completed study of rate decision—therefore cannot presently say more than that order requires serious reduction in Southern carriers' revenues without any suggestions as to how they can recoup loss."

A. W. Vogtle, vice-president traffic and sales of the De Bardeleben Coal Corporation, Birmingham, Ala., and a leading analyst of rate relationships as they effect the economic welfare of the South, sent the following telegram to *Railway Age* on May 23:

"This revision of class freight rates—a 10 per cent increase in the North; 10 per cent reduction in the South, and between the South and other territories, eventually 15 and 20 per cent, respectively—will have little meaning on our traffic to the North, as nearly everything from our territory competitively capable of entering northern markets now enjoys the northern freight rate level. The reduction to the South, applicable to substantial traffic volume means a greater monetary reduction on Northern manufactured goods and on Mid-West food products than on southern products to these home markets of the South. Of course, our southern producers must absorb this difference, which is a backward step from desirable self-sufficiency of the South through diversified manufacture and increased food production for our home markets.

"In short, we must now take our freight rate system apart and put it together again and in a different pattern—representing political theory, not business experience—involving both reductions and increases in rates; but in a sum total to produce a carrier revenue sufficient to maintain adequate transportation, without which we could not reach markets at all.

"It is important, as we face several years of revolutionary freight rate changes, with its unpredictable effect on markets and sources of raw materials, that in all management planning of plant location, sales and purchases, the traffic manager should participate, supplying current information as to these continuing rate changes, the extent thereof, and when they will be effective.

"It is of first importance that we guide these changes sensibly through maintenance of the long-established concept that shipper and carrier cooperation will assure a broad view and a fair disposition of these problems of mutual interest."

G. H. Shafer, general traffic manager, Weyerhaeuser Sales Company, St. Paul, Minn., expressed a western shipper's viewpoint on May 22, in the following telegram:

"It is dangerous to comment upon the Commission's decision in the class rate cases without first having had an opportunity to give it careful study. Based upon present information it is difficult for me to be as sanguine as some concerning its effect upon western industry. Disregarding the legal hurdles, which I believe it will be necessary for the decision to clear, and assuming that, eventually, as the result of the decision, class rates in the West will be placed upon substantially the same level mile per mile as in the East, I do not believe there will be any widespread and pronounced stampede of industry to the western states as some predict.

Bulk of Western Freight

"Some industries will find it easier to compete for business in the heavily populated industrial East no doubt. It must be remembered, however, that but a small percentage of traffic in the West moves on class rates, or on rates directly related thereto. Therefore, the great bulk of freight in the western states will continue to move upon rates which are not affected by the Commission's decision. Moreover, great distances such as we have in the West, cannot be overcome by a mileage rate parity, as the traffic must move longer distances and, therefore, the total rate is higher.

"Parenthetically, let us hope the day is far distant when we will be confronted with a mileage straight-jacket for commodity rates. It appears to me that industry is faced with a long and unsatisfactory period of uncertainty until the rate level is finally fixed."

RAILROADERS SAVE SUPPLIES.—When five vital supply trains were attacked by the Germans during their mid-winter offensive, replacement crews of the Milwaukee-trained 744th Railway Operating Battalion rushed forward to move the trains from the danger zone, Headquarters, European Theater of Operations, now reports. Disregarding enemy strafing and heavy shelling, and with only carbines for defense, the railroaders continued to move trains from a railway yard in an unnamed town, even after withdrawal of the infantry.

As headquarters tells it, "Enemy artillery was pounding the tracks some 200 yards behind the last freight car when the fifth train chugged away with a load of artillery pieces needed by the armies. One engineer pulled a gasoline train into two stations, but was denied permission by local yardmasters to leave his valuable cargo in the yards. The tank cars were considered perfect targets for German planes. So, finally, he found a desolate siding in the country and left his cargo far from German reach."

Tie Association Considers Shortages

Recent session at St. Louis reviews status of the industry and emphasizes need for prompt action to place production on sound economic basis as the only alternative

HANDICAPPED by not being able to hold its annual convention, nevertheless, the Railway Tie Association at a meeting of its executive committee at the Hotel Statler, St. Louis, Mo., on May 8, completed one of its most progressive and effective years of constructive work. Against a background of critical tie production shortages and ever-dwindling inventories the executive committee, after a closed business session, opened its proceedings to interested members for the presentation of two addresses, nine pertinent committee reports and the election of officers.

Election of Officers

The morning and afternoon sessions were presided over by R. M. Hamilton, president, (D. B. Frampton & Co., Pittsburgh, Pa.) assisted by E. J. McGehee, first vice-president, (Wood Preserving Division, Koppers Company, Pittsburgh, Pa.) and Roy M. Edmonds, secretary and treasurer. Approximately 35 producers and others interested in the procurement of crossties for the railways attended the open session whose program included two addresses and the reports of nine committees dealing with specific aspects of tie production and use and which are abstracted herewith.

In the election of officers, near the end of the afternoon session, Mr. McGehee was chosen as president; Waldo Tiller (J. A. Tiller & Sons, Little Rock, Ark.) was elected first vice-president, and Ricker Van Metre, (Wyoming Tie & Timber Co., Chicago, Ill) was chosen second vice-president, and T. J. Turley, Jr., (Bond Brothers, Louisville, Kentucky), E. W. Jones (T. J. Moss Tie Co., St. Louis, Mo.), J. F. Renfro (Taylor-Colquitt Co., Spartanburg, S. C.), and J. H. Tabb (J. H. Tabb & Co., Houston, Miss.) were elected directors.

In his address President Hamilton reviewed briefly the events of the last year, outlining the activities of the association in keeping all producers of crossties fully informed of regulations issued by government agencies and the activities of the technical committee in preparing and presenting their reports. Predicting that the crosstie industry will be faced with continued serious production problems for some time to come, complicated by governmental regulations which undoubtedly will be continued for some time, at least until after the end of all hostilities, he urged the association to exert every effort in carrying on and producing the ties that are so badly needed by the railways of this country.

Continuing, the president urged the incoming administration to follow the course already charted to broaden and strengthen its membership within the entire crosstie industry, the better to achieve its object of promoting crosstie production. Mr. Hamilton also urged close co-operation with the American Wood-Preservers' Association and individuals in furthering the development of mechanical tie handling equipment for loading and unloading in the field and at treating plants. In closing his address he paid a sincere tribute to the memory of the late Elmer T. Howson, formerly vice-president and western editor of *Railway Age* and editor of *Railway Engineering and Maintenance*, who as an associate member had been closely identified with all the activities of the Railway Tie Association from its inception and who had done much to bring about a closer knit organization of mutual benefit to the crosstie industry and the railways as well.

Need Higher Ceiling Prices

In an address on the man-power problems of the crosstie industry, E. M. Hymans of the O. D. T., prefaced his remarks by declaring that after a trip through a portion of the tie production field, he is firmly convinced of the necessity for an increase in the ceiling price of crossties before any appreciable increase in production can be achieved. Continuing, he said that an increase in ceiling price is very desirable from the morale standpoint and to help lessen the feeling of futility that is so prevalent among many producers.

Mr. Hymans advocated the use of power saws for felling and "bucking" timber, saying that during his trip through the production territory he did not see a single power saw in use on any operation. He advocated more aggressive measures to attract labor and a broader use of prisoners of war in the woods and at the mills. Millmen, he said, are not following the rules and regulations set up by the War Manpower Commission and need coaching in correct methods of securing labor and in attempting to stabilize the situation by adopting measures to insure against men being hired away without proper release forms and statements of availability.

The legislative committee, of which B. N. Johnson (Wood Preserving Division, Koppers Co., Richmond, Ind.) was chairman, presented a detailed and constructive review of legislative activities and numerous post-war tax policy proposals that recently have received considerable publicity, as they effect the tie producing industry. The report pointed out that only the most drastic overhauling of the tax system can prevent the serious contraction of private business and referred by example to widely-expanding co-operatives as the outstanding example of tax inequality. Exempt from federal tax, the co-operatives were held as the greatest threat to small business.

Importance of Small Mills

At the conclusion of the report a resolution was adopted and passed that, concurrently with the publication of committee reports in the May issue of the Cross Tie Bulletin, the official publication of the association, a letter be directed to all members asking them to contact their congressmen and senators expressing their individual sentiments to their elected representatives with regard to: (1) Railroad social insurance bill HR-1362 and S-293, (2) Boren and Rand bill HR-694, and (3) Anti-trust or Bulwinkle bill HR-167 and S-337 and S-450.

A committee headed by W. E. Tiller (J. A. Tiller & Sons, Little Rock, Ark.) presented a comprehensive report on the problems affecting tie production from small portable sawmills. That this subject is now of particular interest is evident from the fact that, although at one time small mills were of minor concern within the tie industry, present conditions are reversed; for instance, hand hewn ties have been reduced to approximately 15 to 25 per cent of the total crosstie production, with the result that an ever-increasing proportion of the total is coming from the smaller mills. Furthermore, the report added that most successful tie producers today find it necessary to finance, organize and assist small sawmill operators, particularly in view of the many difficulties confronting these producers.

Individual production units, including the cost of a complete mill, the necessary logging and hauling equipment, the cost of a timber tract to furnish at least one year's supply and operating capital represent an average total investment of approximately $18,600; with some of the larger tie producers now financing 20 to 40 such mills, the report pointed out that the overall capital investment amounts to a considerable sum.

During the last year problems of the small operators have been increased tre-

mendously by government regulations and the loss of labor particularly to the armed forces. A survey by one committee member in western Pennsylvania showed that each mill had lost an average of five men to the armed forces and that 56 mills in that territory were operating with less than half the men actually required to maintain full-time operation.

Improved equipment comprising larger power units, ball bearing mills, rubber tired log wagons, tractors and in a few instances power saws for felling and "bucking" have been the principal means of keeping many small sawmills at work in the last few years, the report added, in the face of average wages ranging from 50 to 65 cents an hour, compared to an average of 25 cents an hour for common labor a few years ago.

The committee predicted that higher wage rates will prevail for years to come and, moreover, that small operators will be faced with more overhead including additional compensation insurance, greater social security benefits and high stumpage prices, all of which will demand increased operating efficiency and better equipment.

Citing the studies of the United States Forestry Service as indicative of a general need of better equipment, better operating conditions and better controls throughout the small sawmill field, the committee added that most small sawmill operators do not have any conception of cost accounting, with the result that such items as depreciation, obsolescence and fixed overhead are not given due consideration in arriving at actual production costs. The report also advocated the use of organized or central trucking as a definite means of assuring more efficient transportation from the mill to the buyer's yard or railroad siding.

Ties Now Lowest Priced Items

Pointing to the inadequacy and discrimination of present ceiling prices, the committee reported that small portable mill operators under present ceilings are receiving approximately 25 per cent more for switch ties than for crossties and 20 per cent more for lumber than for switch ties, with the result that crossties comprise the lowest priced items of mill production. With such broad discrimination in favor of lumber, small operators are exerting every means to increase the production of their highest priced items and to provide a corresponding reduction in the output of crossties. Furthermore, during the last two years these operators have experienced considerable increases in cost for stumpage, labor, repair parts, hauling costs and indirect costs including taxes, insurance and expenditures involved in compliance with various governmental regulations.

In the face of this, the report added, these operators have been forced to sell crossties at the same ceiling prices that were established in 1942, while during the interim substantial increases have been provided for lumber and other wood products, thus forcing small operators either to change over to cutting lumber exclusively or to shut down their mills and to engage in other work.

As chairman of a committee charged with investigating checking and splitting of ties within the industry, T. H. Patrick (C., M., St. P. & P.) presented a report which advocated somewhat closer stacking, shading ties from direct rays of the sun and stacking arrangements to allow prevailing winds to blow against the side of the stacks rather than against the ends of the ties as effective measures of reducing checking and splitting in seasoning yards. Attention also was drawn by the report to good results obtained from several methods of artificial seasoning in conjunction with wood preservation as means of hastening the drying of inner fibers and slowing down the drying of outer fibers, as well as broader utilization of incising and chemical agents.

Need More Study of Splitting

Recommending that tie producers and wood preservers embark upon a broader study of the behavior of ties in track in various parts of the country, the reaction of different species of wood to various types of anti-splitting devices, and advocating closer co-operation among the Railway Tie Association, the American Wood-Preservers' Association, the A. R. E. A., and the railways, a committee headed by J. B. Akers, (Southern) and dealing with the investigation of checking and splitting of crossties in track, presented a timely report that emphasized the grave concern that railroad men have for this subject.

The committee was of the opinion that checking and splitting have their inception during the seasoning period and that such defects often grow after the ties are placed in track, to the extent that checking and splitting are the primary reasons for eventual renewal or replacement of ties in track. According to the report, experiments at present include the use of protective coatings applied to the ends of ties; impregnants and other chemical aids including crystal urea, combinations of urea, borax and boric acid, as well as emulsions of urea and phenyl mercury oleate; variations of standard "s" or "c" irons, including crinkle and rib formations to provide better holding within the wood fibers; the use of dowels or bolts near the ends of split ties, after the openings had been squeezed shut; variations in stacking; and, a new development in artificial seasoning in which the moisture content of green ties is reduced to the proper point within a few hours, after which the ties are creosoted while still hot.

As chairman of the manufacturing practice committee, D. B. Frampton's (D. B. Frampton & Co., Pittsburgh, Pa.) report presented a review of production problems arising from shortages of man-power and recommended broader use of mechanical equipment. Although power-driven saws have entered the field and are used to some extent in felling timber and cutting logs to desired lengths, the report declared that most operators find this type equipment of greater advantage for trees of average diameter and where stands are sufficiently dense to make the use of power tools practicable. As tool manufacturers learn the field conditions that must be met in the use of power-driven saws, better designs will overcome some present weaknesses, and improvements in manufacture together with proper training of operators doubtless will do much to revolutionize timber cutting with resultant reduction in man-power requirements and more favorable production costs.

Other Reports

A committee headed by R. B. Smith, presented a report dealing specifically with the operation of yards in the field, including management, layout, methods of payment and accounting and a suggestion that the association work to the end of promoting standard and uniform methods of cost accounting.

A committee headed by H. R. Condon (Wood Preserving Division, Koppers Co., Pittsburgh, Pa.) presented a report on timber conservation in which it stressed the need for a comprehensive program of timber care, the development of a sound forest taxation plan to offer encouragement to private owners to hold cut-over land for forest production, the creation of additional experimental forests to serve as demonstration areas, the limitation of national and state purchases of additional productive timber land, the support and encouragement of conservation and forest management and utilization among farmers and small sawmill operators.

W. P. Arnold (Wood Preserving Division, Koppers Co., Orrville, Ohio) was chairman of a committee that presented a concise report on the seasoning of a group of oak ties at Orrville and of oak and gum ties at Spartanburg, S. C. As a result of these observations, it was found that an approximate equilibrium is reached in about 14 months, but treating results indicated little if any benefit obtained after ten months of seasoning. The months during which ties are received and stacked have an important bearing on the rate of drying and indications are that no set period can be maintained for optimum air seasoning. The committee found that very little drying occurred during the months of December, January and February for, with the exception of very green ties, no appreciable drying occurred during those months.

SAFETY RECORD.—1500 Railway Express truck operators, who in 1944 completed 10 years of accident-free driving, recently were awarded special lapel emblems as a mark of recognition. Some 10,000 other vehicle employees, whose no-accident records run from one to nine years, received merit cards.

Army Railroading from D-to V-E Day

Military Railway Service hauled 18½ million tons of freight in Europe—Daily haul stepped up from 3,000 to 125,000 tons

OVER 18,500,000 net tons of supplies were hauled by the Army Transportation Corps' Military Railway Service during the 11 months from D-Day to V-E-Day in the biggest and most complicated supply operation the world has ever known. A daily average of 3,000 tons during rugged pioneering in Normandy rose to 125,000 tons a day during the period of the Rhine crossing.

Accepting as routine the hazards of bombing, strafing, sniping, hastily repaired tracks and shaky bridges, the train crews of the First and Second Military Railway Services continued hauling supplies in ever increasing volume until the Wehrmacht crumbled under the weight of Allied power. To get trains through to the forward railheads called for constant ingenuity, resourcefulness and courage.

Away from Home Terminal

During the heat of Allied offensives, the Army railroaders carried blankets and "C" rations with them. "Final destination" changed from day to day—sometimes hourly. Many crews were two weeks on the road before returning to their bases. If GI trainmen were to receive their reward for "overtime" in dollars and cents, Army sources estimate that the total would easily finance the reconstruction of the battered lines the M. R. S. has operated from Normandy to Nuremberg.

The first American "locomotive" to run on continental rails came ashore near Isigny, France, on D plus 11. It was an ordinary jeep fitted with demountable flanged wheels and was used by a 2nd M. R. S. reconnaissance party between Carentan and Cherbourg. On a trip across the constantly bombarded Vire river bridge one of the officers was injured by a shell burst. On numerous occasions the "locomo-jeep" puttered defiantly along newly de-mined rails in "no-man's-land" with artillery fire from both sides screaming overhead. On July 12 the first scheduled train made the trip from Carentan into newly-liberated Cherbourg.

As more trackage became available and supplies began pouring into the big port, a shortage of rolling stock began to be felt. Much captured equipment was damaged, but repair facilities were limited. The Transportation Corps then inaugurated its large scale ferrying operation between Southampton and Cherbourg, planning for which had begun two years before. Specially equipped LST's, barges and "sea trains" delivered over 20,000 pieces of rolling stock in less than four months. Meantime, operating battalions along the line were patching enemy tank cars and improvising parts for non-standardized continental freight cars.

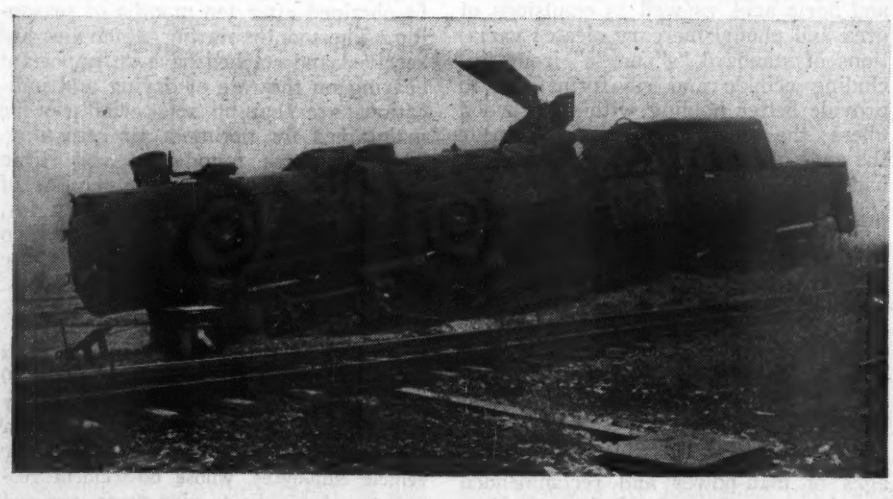
Engineers rebuilt the bridges, repaired mined and bombed tracks, blasted blocked tunnels and "daylighted" them into cuts. More than 400 bridges and 12,000 miles of tracks were rebuilt before the end of the war. The railway battalions quickly improved the roadways, replaced temporary communication lines, scoured the country for rails and switching equipment, and put demolished signal facilities back in working order. Train crews pushing along behind the combat engineers kept the engines supplied with water—often by means of portable pumps and bucket brigades. When coal ran short, the firemen stoked the locomotives with logs or crossties—anything which would burn. The trains went through.

Supplies by rail followed the tank columns as they raced out of Normandy and across the plains through Rennes, Le Mans and Alencon. By D plus 90 the lines were open to Paris. Another 30 days and they had reached Brussels and the great railroad center at Liege.

In South France

After the Mediterranean landing, the 1st M. R. S., which had initiated military railroading in the E. T. O. with operations in North Africa and Italy, pushed north from Marseilles through Southern and Central France. Two lines were put into service, the Marseilles-Paris passenger line and a corresponding freight route. The latter was stymied for some time by a completely demolished bridge which spanned a deep gorge between Orgon and Cheval Blanc. An Engineer unit started to work on one side of the river and a railway construction outfit began building from the opposite side. The spot was isolated, high in the mountains. The icy mistral blew constantly, whipping the river into a fine spray which formed a glassy coat of ice over everything nearby. At times the men could not stand up against the terrific force of the wind. Work simply had to cease while they sought refuge in their box-car barracks. Eventually the engineers and railroaders joined in the center of the span. The same day a wreck on the passenger line blocked all traffic and the men had the satisfaction of seeing it diverted over their newly-completed bridge.

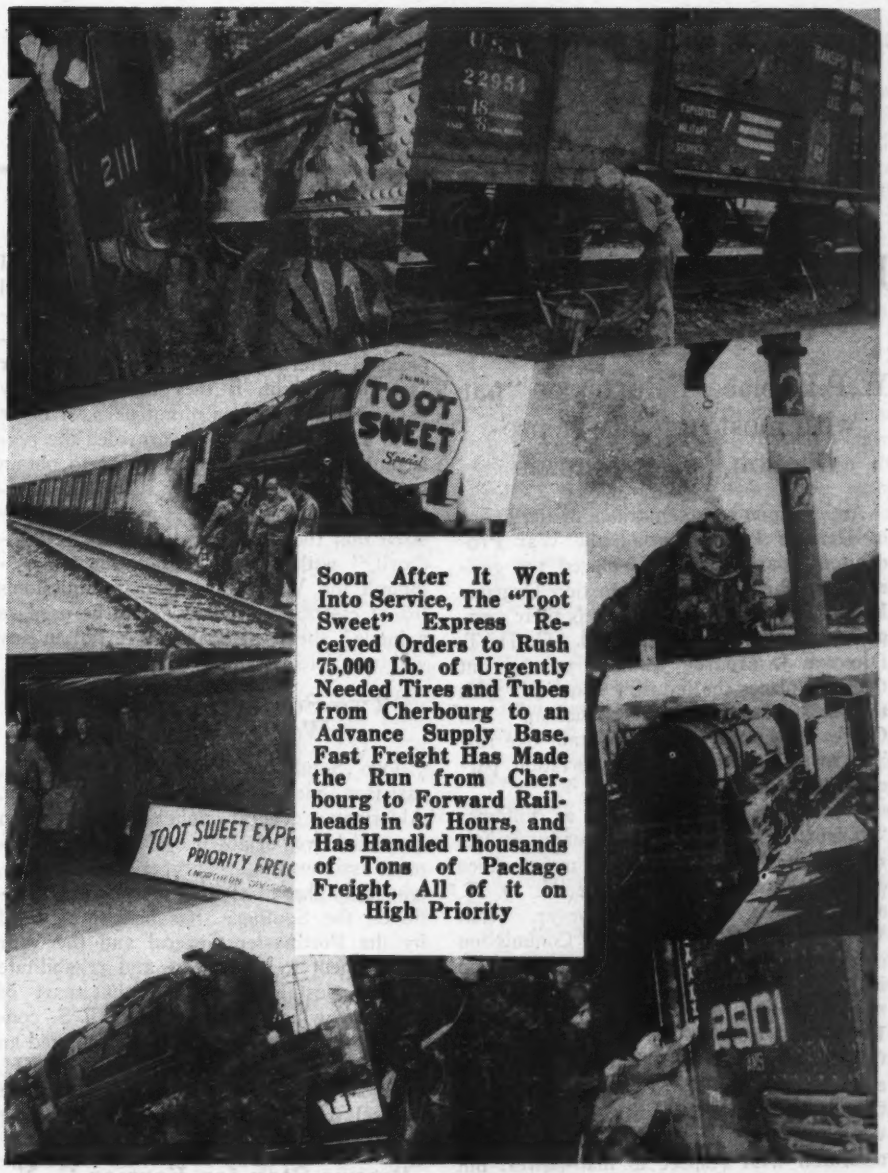
"Blackout nerves" were universal among pilot-engineers throughout the continental campaign. Even in areas where trains might safely operate with headlights, due to a depleted Luftwaffe, the equipment was not available. A ride in the engineer's cab on a black night was enough to convince anyone that the most experienced man could not be sure of what section of rail he was traversing, let alone spot any danger which might be lying ahead. Signal lights were not dependable. When the power failed, as it often did, auxiliary current was not always sufficient to operate the lights efficiently. During stormy weather, rain shorted the system and set the red-amber-green signals to blinking crazily.



This German Locomotive Made a Run for It When the Allies Closed In, But Was Stopped Somewhere Along the Way Back to Germany

A railway operating battalion with headquarters at Munchen-Gladbach, Germany, spent three days as the Rhine offensive was being launched in making up a train to carry materiel for the first railway bridge to span the river. Bailey Bridge sections, small river tugs, pile-driving equipment and steel cables comprised the high priority cargo which was given a clear block after darkness had fallen on March 25. The engine was placed at the rear of the load so it could be brought back again from a "dead-end" stop. The 20-mile route penetrated the 9th Army artillery emplacements clear to the river bank and had just been cleared of mines. Even so, the train crashed through a warning barricade marked "mines" as it approached the firing line. Disregarding the warning, men cleared the track and went on. Amid the bedlam of booming artillery, anti-aircraft fire, and crashing planes, the crew delivered the bridge to an engineer construction unit. Less than two weeks later the Wessel bridge was completed and railroad operations had started East of the Rhine.

The Rhine crossing began March 24. When V-E Day was announced on May 8, Military Railways were using bridges across the river at Duisburg, Worth, Ludwigshafen-Mannheim, Mainz, and Wessel. More than a dozen lines were open and operating. Supplies were flowing into railheads near Leipzig, Nuremburg, Regensberg, Munich, Magdeburg, and Brunswick.



Soon After It Went Into Service, The "Toot Sweet" Express Received Orders to Rush 75,000 Lb. of Urgently Needed Tires and Tubes from Cherbourg to an Advance Supply Base. Fast Freight Has Made the Run from Cherbourg to Forward Railheads in 37 Hours, and Has Handled Thousands of Tons of Package Freight, All of it on High Priority

Nazi Railroads Still Function

Allied bombers had played havoc with German railroad plant but managed to spare sufficient yards and rolling stock to make rehabilitation easier in many respects than it had been west of the Rhine. Long stretches of track were in perfect condition. Due to the speed of the American advance, many fully loaded German trains were left unharmed. Thousands of boxcars and hundreds of locomotives were simply re-stenciled with American markings and put to work at once. In the forward areas, operating equipment was almost exclusively German.

Coal products were plentiful east of the Rhine but the combination of lignite briquets and German locomotives which have no fire pans has proved a serious problem. Good quality Ruhr coal is scarce. As the briquets burn they disintegrate rapidly and drop through the grates, setting fire to ties, bridges and trains. German fire departments at Marburg and Geissen have been called upon several times to extinguish blazes started in this manner.

On one occasion a pilot engineer of the 746th Railway Operating Battalion looked back to see smoke pouring from the rear of his train which carried a full load of gasoline. Realizing that the gasoline was sure to catch fire in a matter of a few minutes he brought the train to an abrupt stop and ran back toward the blazing cars. With the hope of saving the greatest possible amount of precious gasoline, he approached the fired section. By this time the flames were billowing out from beneath the cars and clouds of black smoke were mushrooming skyward.

Without hesitating, the engineer ducked under the bumpers and successfuly uncoupled the burning section of the train. Another crewman moved the forward portion to a safe distance from the now roaring inferno. The engineer had collapsed amid smoke and fumes and had to be rescued by other members of the crew who had reached the scene. He was badly burned but, due to the quick action of his buddies who extinguished the flames licking at his clothing, he is now recovering in a hospital. His action saved a cargo of greatest value. It was delivered promptly to a forward dump where a tank column was waiting to gas up. Indirectly, his courage and devotion to duty saved the lives of troops who needed quick support from the tanks.

As military railways smoothed out into routine operations in France and Belgium, civilian crews became more active in assisting the battalions. French crews ran the trains under supervision of GI's and in some districts took over operations completely. In occupied Germany, some civilians are used during daylight runs east of the Rhine. However, Allied authorities are proceeding with caution, accepting no Nazi party members and maintaining close supervision.

Repair Work Ceases

The great reconstruction program which put the French railways on the road to recovery ceased when the Germans surrendered. The Transportation Corps will continue to supply Allied forces and the suffering populations of liberated countries. It is already embarked on a tremendous program of "redeployment," carrying homeward-bound troops to ports of embarkation, arranging the transport of units earmarked for the Pacific. But Germany must rehabilitate its own railroad system, clean up the nightmarish jungle of twisted steel and piles of masonry.

Railroads-in-War News

Railroads Get High Man-power Rating

W.P.B. places industry on "par with most urgent war production," says Johnson

Acting upon representations of the Office of Defense Transportation, the War Production Board last week placed the railroads on the National Production Urgency List—the "must list"—insofar as their man-power problems are concerned. O. D. T. Director J. Monroe Johnson pointed out that this places the industry "on a par with the most urgent war production," and O. D. T. is undertaking to obtain like ratings for other forms of transportation, particularly highway transport.

The railroad listing reads as follows: "Railroads; operation of railroads, including facilities for the repair and maintenance of railroad equipment." The O. D. T. announcement stated, however, that W. P. B. and War Manpower Commission officials had been asked "to use discretion in applying this rating to the various railroad carriers and service companies." Robert L. Glenn, acting director of O. D. T.'s Division of Transport Personnel, explained that this was in "recognition of the fact that all railroads and railroad occupations will not necessarily be in critical condition with respect to man-power, but in those instances where assistance is required the local officials are directed to give every possible aid in settling particular man-power difficulties."

Mr. Glenn added that, although W. P. B.'s action will be of "great assistance" to the railroad industry, "it will not lessen the need for individual carriers to pay the closest attention to their man-power difficulties and take every possible step to insure an adequate complement of workers."

Another development in the man-power situation came this week when the National Headquarters of Selective Service announced on May 22 that local boards were being requested "to liberalize occupational deferments so as to reduce the total number of men to be inducted" in the 30-37-year-old group. The memorandum to the local boards announced revised requirements providing that to be eligible for occupational deferment a registrant 30 through 33, as well as a registrant 34 through 37, need merely be "regularly engaged in an activity . . . in war production . . . or endeavor essential to the war effort." It was previously required that registrants 30 through 33 be found "necessary to" as well as "regularly engaged" in such activities in order to be eligible for occupational deferment.

"Regularly engaged" is given a liberal interpretation in the memorandum, local boards being authorized to consider registrants 30 through 37 for continuous occupational deferment "on the basis of their last employment, if they are temporarily unemployed by reason of cutbacks, or other good and sufficient cause, provided the registrant makes a continued effort to obtain employment in an activity in war production. . . ." At the same time it is emphasized that the local boards retain "full authority" with respect to deferments. Although the War Manpower Commission's list of essential activities "is to be used as a guide," the local boards "are not in any way restricted or limited by the list."

Two Southern Officers Get War Assignments

Two Southern officers—P. J. Schardt, assistant vice-president, and Sidney S. Alderman, general solicitor—have been granted leaves of absence to accept government assignments in Europe. Mr. Schardt, who is in charge of mail and express traffic on the Southern, has been designated by the Postmaster General and the War Department to reorganize and rehabilitate civilian postal services in that part of Germany which will be under U. S. control. Mr. Alderman has been appointed an aide to Supreme Court Justice Robert H. Jackson, U. S. representative and chief counsel for the prosecution of Axis war criminals.

Bronze Star for Former G. N. Signal Supervisor

Maj. Francis J. Murphy, telephone and telegraph engineer in general headquarters, Military Railway Service, European Theater of Operations, has been awarded the bronze star medal "for meritorious service in connection with military operations as signal and communications officer for headquarters, 1st M. R. S., from September 15, 1944, to January 1, 1945."

The citation said of him: "He displayed unusual initiative, ingenuity and excellent judgment in accomplishing the speedy repair and rehabilitation of badly damaged communication facilities, and due to his untiring efforts, it was possible to have at all times sufficient communications to insure adequate rail service to the armies. Major Murphy displayed unusual tact and judgment in handling the difficult questions arising between civilian railway officials and command groups of various military units."

Major Murphy, formerly an assistant signal supervisor on the Spokane division of the Great Northern, is reported in the May 10 issue of "The Yankee Boomer" (M. R. S. newspaper) to have planned and supervised the restoration of communication facilities on railroads serving the Sixth Army group in France.

Big Task to Restore Railroads of Europe

Will be "work of a generation" according to Ross, Army's transport chief there

Restoration of Europe's war-torn transportation facilities to their pre-war standard will be the "work of a generation," in the opinion of Major General Frank S. Ross, the Army's chief of transportation in the European Theater of Operations. General Ross, who expects to return soon to his command, has been in Washington, D. C., for a brief period, and he expressed this view at a May 23 press conference there.

Meanwhile the general estimated that transportation facilities sufficient to supply the "bare necessities of life" should be in operation in Germany within six to eight months. He predicted that the Rhine river would not be clear of demolished bridges and debris, and thus fully open for navigation, until the late fall.

General Ross was unable to estimate how many cars and locomotives might have to be imported into Europe for complete rehabilitation of the lines. That, he said, is largely a question of determining what the European countries themselves can do in the way of building rolling stock. And the question cannot be answered until a survey of the heavy industries, now under way, has been completed. Giving his own opinion, the general said he could see no reason why Germany cannot in time get into production of enough railroad equipment to rehabilitate the railroad lines there.

Let the Germans Do It—The policy of the Army's Transportation Corps with respect to rehabilitation of the German lines, he indicated, will be to use German labor to do everything possible. It is not the intention to hold American soldiers in Germany for such work. General Ross added that the Germans, under American supervision, will be permitted to take over operation of transportation facilities "as rapidly as they are capable." He believes that Transportation-Corps troops will be taken out of Europe when "redeployment" is completed—except those needed to serve the army of occupation, plus officers to supervise civilian transport in the American-occupied section of Germany.

French railroads, General Ross said, are "pretty well rehabilitated" insofar as roadbeds and bridges are concerned, but he added that there is bound to be a shortage of rolling stock "for some time." Before the war French railroads listed 450,000 freight cars in their rolling stock inventory. The latest figures which General Ross had

on recent conditions were as of last September when there were 160,000 fully operative freight cars on the French roads. Since then the carbuilding plants of France have been used to put bad-order freight cars in repair; and, when that job has been completed, the plants can turn to new construction, the general went on.

Locomotives Needed—Later he gave it as his personal opinion that European transport's "most critical" need was for the rehabilitation of locomotives, other rolling stock and rail terminal facilities such as warehouses—"that type of facility that facilitates distribution." At the same time he pointed out that much restoring of track will also be required.

With further reference to the rolling stock situation in France, General Ross stated that the Germans moved large numbers of French cars and locomotives out of the country; and this equipment is seen today "all over Germany." He explained, however, that all French equipment thus seen away from home was not necessarily moved there by the German armies; for there were interchange arrangements between French and German roads before the war, and some French equipment was caught in Germany just as some German equipment was caught in France. Nevertheless the Germans fared best on the net in equipment-shifting maneuvers of all kinds; the balance in their favor at the end of the war was about 200,000 cars.

M. R. S. Operated 14,000 Miles—Operations on 14,000 miles of track (the bulk of it double-track lines) were being directly supervised by the Transportation Corps on V-E Day, General Ross revealed. Other lines had been operated from time to time and then turned back to the French. The Army took into the European Theater for its use about 34,000 freight cars and 1,850 locomotives. The cars, shipped from this country in parts, were assembled in England and France—21,000 in the former country and 13,000 in the latter.

The construction of military pipe lines in Europe was "positively phenomenal" in the opinion of General Ross. He explained that the pipe lines are operated by the Army engineers, adding that they took a "tremendous burden" off the Transportation Corps, releasing railroad and truck equipment for the movement of other supplies.

Railway Traffic in Holland Virtually at Standstill

One immediate effect of the German surrender was the return to duty of railway personnel in the northern provinces of Holland, on strike since September 17 by order of the Allied Supreme Command and the Netherlands government. But the Netherlands Information Bureau in New York, on May 18, made plain that resumption of traffic to anything assuming normal will take some time.

All traffic, the Bureau reports, has been badly disrupted, both by Allied bombings and by the Germans, who commandeered rolling stock. At this stage passenger traffic is said to be "out of the question," the Germans having sent all passenger coaches into the Reich. A search of all yards in the recently liberated areas disclosed only 27 locomotives, mostly in disrepair. And on the electric railway line between Utrecht and Amsterdam, all electrically-operated rolling stock was removed by the Nazis, including even the overhead wiring.

A main obstacle, it is explained, is lack of coal, which has halted transport of food from southern and eastern Holland to what are called the three western "hunger provinces." As soon as "reasonable quantities" of coal become available, "there will be a decided improvement in the food distribution system," the Bureau adds.

Credit Rules Interpretation

The Interstate Commerce Commission has made public an opinion wherein the Attorney General holds that freight shipped or received by a contractor engaged exclusively in work covered by a cost-plus-a-fixed-fee contract with the United States is "freight transported for the United States, for any department, or agency thereof" within the meaning of the Interstate Commerce Act's section 3 (2). The effect of the ruling would be to exempt such a shipper from the commission's regulations regarding the extension of credit, and thus permit him to obtain credit on unpaid freight charges for a period longer than the 96-hours maximum fixed for commercial shippers.

Army Railroader Hero in Paris Station Bombing

From Transportation Corps Headquarters in Paris comes the story of a "most courageous and humane act," concerning a member of the 764th Railway Shop Battalion, which has been responsible for maintaining all railroad yards in the Paris area. The act of heroism was the outgrowth of an incident dating back to Christmas Eve, 1944.

As Headquarters tells it, one of the Paris stations had been bombed, and falling beams and empty wrecked hospital trains had made it "a mass of unusable track." Men were injured by bomb fragments and others buried under beams. But S/Sgt. Harold J. Richards dug himself out and assisted a major who had broken his leg to a place of safety. Then, remembering a loaded hospital train was due at any moment, the sergeant headed for the bombed out tracks and managed to stop Hospital Train No. 20, averting a possible wreck and saving hundreds of wounded.

Later, when the sergeant was brought into the first-aid station, he was found to be suffering from two broken vertebrae.

Would Release All Railroaders from Army

The National Management-Labor Policy Committee of the War Manpower Commission has adopted a resolution "urging that the War Department 'screen and demobilize' soldiers who were formerly railroad employees, to permit them to resume their former employment," according to a W. M. C. announcement of May 23. The resolution will be submitted to W. M. C. Chairman Paul V. McNutt.

Prior to its adoption, the announcement said, the committee had discussed the railroad industry's needs for additional workers; and it found that such needs "have become more pressing since V-E Day, particularly on western railroads." Shortages were reported in several groups, including switchmen, brakemen, firemen, skilled trades journeymen, helpers and apprentices, telegraphers, freight handlers, track workers, and other laborers.

Dr. Julius H. Parmelee, director of the Bureau of Railway Economics, Association of American Railroads and a member of the committee, was reported to have told his colleagues that demands on the carriers will continue heavy for many months to come. He noted that an increase in the movement of war materials to the West Coast has already started and will build up rapidly. And he further reported that the shipment of wheat, other foodstuffs, clothing and rehabilitation materials to the devastated areas of Europe is steadily increasing.

Other discussions were reported to have emphasized the heavy burden the railroads will be called upon to carry in transporting members of the armed forces who will soon be arriving in large numbers for furloughs, reassembly, and reassignment. Meanwhile, "the usual wheat and other crop harvests will require maximum distribution facilities."

Dr. Parmelee is one of the two management members of the committee, the other being S. Duncan Black of Black & Decker Manufacturing Corporation. Labor members are: Frank P. Fenton, director of organization, American Federation of Labor; A. E. Lyon, executive secretary, Railway Labor Executives' Association; and Ted Silvey, chairman of reconversion, Congress of Industrial Organizations. The member representing agriculture completes the committee; he is Paul Sifton, director of labor and public relations, National Farmers' Union.

War Paintings Depict Role of T. C. in Battle of Europe

The Office of the Chief of Transportation, Washington, D. C., is now distributing a 20-page booklet entitled "A Series of Paintings of the Transportation Corps, U. S. Army, in the Battle of Europe." Entirely factual, these on-the-spot war paintings by Sgt. David Lax, of the Grand Central Gallery, New York, present a panorama of procedures and heroic incidents in a locale of ports, trucks on highways, railway stations, troop loadings and landings on Normandy beaches.

Printed in France, the text of the brochure appears in both English and French, and reveals that three top T. C. officers should be credited with having recognized the value of this accurate series of paintings. It names Maj. Gen. Frank S. Ross, chief of transportation, Eastern Theater of Operations, Col. Samuel A. Decker, chief of the Administrative division, and Lt. Col. Eli Smith, chief of the Miscellaneous branch. "All," it is stated, "aware of the historical implications of their organization, encouraged Lax, provided him with

technical information, and enabled him to paint the range of transportation operations in this theater."

Already having been shown in part both in this country and abroad, the entire collection of these paintings is shortly to be placed on exhibition in the United States. Further information concerning the collection may be obtained from Lt. Col. Russell F. Oakes, chief, Office of Technical Information, Office of the Chief of Transportation, Pentagon building, Washington 25, D. C.

Colleges and High Schools Agree to Curtail Athletic Travel

Adoption of voluntary programs to curtail college and high school athletic transportation was announced last week by Director J. Monroe Johnson of the Office of Defense Transportation. The 15-point programs have the endorsement of the National Collegiate Athletic Association and the National Association of Secondary School Principals of the National Education Association.

Among other things the programs provide for localized and simplified schedules of athletic contests; exclusion of contests involving an absence of more than 48 hours from the campus; elimination of "all unreasonably long trips"; limiting ticket sales to localities where the sports events are taking place; routing of teams away from congested transportation centers and away from main arteries of travel; limiting the number of athletes, coaches, cheer leaders, and managers making trips, and excluding from travel parties, bands and "supernumeraries not essential to the conduct of competition"; eliminating all events "not essential to the proper conduct of a sound program of athletics," and high schools tournaments or meets that involve the use of transportation facilities beyond a suburban area; and eliminating participation in post-season events.

The O. D. T. statement outlining the program said that Director Johnson warned the college authorities that "unless transportation conditions improve markedly before the football season, games scheduled to be played at other than home fields would have to be eliminated." The O. D. T. director was reported to have said also that transportation requirements for all sports would have to be further curtailed if the need for military and other essential transportation required such action.

Estimate Big Passenger-Mile Savings from Meeting Ban

The War Committee on Conventions, headed by Director J. Monroe Johnson of the Office of Defense Transportation, estimates that the convention ban has resulted in a "direct saving" of more than 52,000,000 passenger-miles in three months. It is also claimed that there have been "considerable 'semi-direct' savings through voluntary abandonment of scheduled conventions."

The estimate of direct savings is based on applications for holding conventions which have been denied by the committee. During February, March, and April it received 1,088 applications, granting 69 and denying 684. The remaining 335 were for meetings not covered by the ban. The anticipated attendance at conventions proposed in the applications denied was put by the committee at 305,000 persons, 55 per cent of whom were expected to use rail transportation for an average round-trip journey of 310 miles.

The committee gave these estimates in a letter wherein it reported its activities to Director Fred M. Vinson of the Office of War Mobilization and Reconversion. In the letter it asserted that "if the pent-up convention demands were to be released at the same time as military requirements are expanded (in accordance with the Army's 'redeployment' plan) the effect upon the railroads and the hotels would be cataclysmic." With respect to hotel occupancy, the committee has been advised by the American Hotel Association that the ban has resulted in "substantial" savings which cannot, however, be stated in quantitative terms.

War Prisoners Not Pampered by Railroads

Prisoners of war are not pampered or given special privileges by the railroads while being transported in this country, John J. Pelley, president of the Association of American Railroads, said in a May 24 statement.

Ordinarily, Mr. Pelley pointed out, prisoners of war are moved in separate trains designated for this purpose, and are fed from army kitchen cars. At times, he stated, small groups are carried in regular trains, and when this is done, instructions are in effect to provide the prisoners with box lunches in the cars in which they are held under military guard. The purpose of these instructions, he explained, is to segregate the prisoners from the traveling public.

Mr. Pelley noted that the army's standing orders require lowest class accommodations for prisoners of war being moved by rail, except when, in the public interest, it is necessary to do otherwise.

Erie-Sponsored 765th Does a Job on Captured Shop

"The job which the battalion has had to do has in no way been a light one," writes Headquarters, European Theater of Operations, of the Erie-sponsored 765th railway shop battalion, now on the Continent.

Activated little more than a year ago, at Camp Plauche, La., the 765th arrived in France on January 14 of this year, being moved close to the German border on March 1. There it took over an almost completely destroyed railroad shop which had been used by the Germans for locomotive repairs. When the Americans arrived on the scene, the shop, which occupies more than 10 acres, was littered with wreckage of machinery and equipment. The power plant had been blasted, and there was no power and no steam. Four boilers had been wrecked, two of them blown through the floor, and on the other two all stoker and conveyor equipment had been destroyed. It was necessary to remove 300 lb. of T. N. T. from the remaining boilers before any repair work could be attempted. Two large generators had been blown into large holes in the floor, and all power lines leading into the shop had been destroyed and water facilities cut off.

Though the task of setting things to right was "tremendous," in one month the shop was restored to operation, and in addition to clearing away wreckage and debris, the outfit had completely assembled two steam locomotives, overhauled 21 Diesels and repaired four 25-ton locomotive cranes.

Machinists and electricians of Company A put into operation one 80-ton crane, two 6-ton cranes and one 2-ton crane for overhead use in the shop. A substation and vault were constructed for one large generator which was salvaged from the wrecked power plant and a 10,000-volt power line was installed throughout the shop, with all lines and circuits permanently run underground. Considerable German machinery was repaired and several large turntables blown from their tracks were restored to service. Over 4,000 panes of glass have been replaced in the shop roof.

The Diesel section of Company A managed, on equipment gathered from trips into German territory, completely to overhaul engines from top to bottom, replacing blockheads, cylinders, etc.

Mines were removed from the yards and tracks relaid. A mobile tool shop was constructed from an old German box car, and Company C of the battalion, which handles all car repairs, employs it for making runs to scenes of wrecks for on-the-spot repairs.

Commanding officer of the outfit is Lt. Col. Lawrence H. Lewis, once a wheel-shop foreman on the Erie. Capt. Frank Dunton, of Hornell, N. Y., an Erie master mechanic at Scranton, Pa., before entering the army, is serving as assistant general shop superintendent of the 765th.

Million Tons of Army Supplies Diverted in 10-Day Period

Further details of how the domestic transportation phases of V-E Day were taken in stride were given in a War Department statement of May 20 which revealed that more than 800,000 measurement tons of cargo on ships and nearly 200,000 tons of railroad freight were turned around by the Army from May 2 through May 10 to stop the flow of combat supplies to Europe. The turn-around was accomplished by two divisions of the Army Transportation Corps—the Water Division headed by Brigadier General J. M. Franklin, and the Traffic Control Division headed by Brigadier General William J. Williamson.

Eighty-nine ships were stopped at sea or returned from foreign ports without discharging all of their cargo, and 13 other ships, fully loaded, were held at anchor and will be diverted to the Pacific. East Coast ports halted unloading and railroads stopped in transit a total of over 7,000 freight cars, 1,079 being permitted to go on to port for export while 6,033 were diverted to inland depots and holding and reconsignment points.

Plans for rolling back the flow of freight to Europe after V-E Day were established nearly a year ago, the War Department statement revealed. As early as last October, theater commanders in Europe and the Mediterranean indicated on their supply requisitions by code marking if they desired the material to be shipped in the

event Germany collapsed. If not needed after V-E Day, it was marked "STO"; if required regardless of victory, the requisition was marked "SHP." The code marking facilitated the shuffling of freight after V-E Day, and all cars stopped had been disposed of by May 10.

General Williamson paid tribute to army officers who participated in the turn-around operation, and to the railroads. "The control officers and the railroads," he said, "deserve the highest commendation for their split-second efficiency in rolling back the flood of war freight going to the Eastern Seaboard."

I. C. C. Service Orders

Interstate Commerce Commission Service Order No. 308, effective May 19 through July 31, unless otherwise ordered, provides that railroads shall not pre-ice refrigerator cars for loading with potatoes in California, that no icing service other than standard refrigeration may be accorded interstate shipments of California potatoes, and that there shall be no icing, and no ventilation service other than standard ventilation, on shipments of potatoes originating at and destined to California stations.

These restrictions were necessary, the order indicated, because pre-icing of cars has required additional switching; their reicing in transit has caused congestion at certain icing stations and required excessive hauling of ice; and as result of these practices the shortage of cars was augmented.

The commission on May 17 issued Second Revised Service Order No. 180, superseding Revised No. 180, as amended, and effective from May 25 to December 1, unless otherwise ordered. This order prescribed super-demurrage charges running up to $44 per day on refrigerator cars held for loading and unloading beyond the tariff free time, and these charges are continued in effect under the new version of the order, but are extended to apply also to cars held for orders, bills of lading, payment of freight charges, reconsignment, diversion, reshipment, inspection or forwarding directions.

Revised Service Order No. 305, effective May 16 through July 15, has superseded No. 305, which was effective May 14. The revised order makes the prohibition against holding for orders, reconsignment or diversion of any railroad freight car loaded with potatoes or watermelons applicable to all such shipments originating in Florida, Georgia, South Carolina, North Carolina and Virginia, where the original order applied to stations located on the lines in those states of 9 specified railroads.

By Amendment No. 3 to Sixth Revised Service Order No. 259, effective May 22, the requirement of a War Food Administration permit for the shipment of potatoes from specified territories has been lifted from Aroostook county, Maine, leaving Kern county, California, the only area in which such permit is still required. The order expires at the end of this month.

Amendment No. 5 to Revised Service Order No. 263 extends the expiration date of that order, which has to do with demurrage charges on tank cars, from June 1 to August 1.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since May 8, and which are of interest to railways:

Copper Products—Orders M-9-c, M-9-c-1, M-9-c-2 and M-9-c-4, which restricted the manufacture, delivery and installation of many copper products have been revoked. After July 1, mills will be permitted to deliver copper controlled materials on orders not bearing CMP symbols, provided that such deliveries do not delay the production and delivery of military and essential civilian orders. Such orders, W. P. B. said, may be placed immediately for delivery after July 1.

W. P. B. cautioned that in no sense do the revocations mean that copper is available once more in unlimited supply for civilian production. Refined copper remains in short supply and with ingot, scrap and other copper raw materials will continue to be allocated under copper order M-9. This, in turn, will limit the amount of controlled materials—strip, rod, tube, wire and castings—that may be produced for civilian orders.

Experimental Models—Restrictions on the production of experimental models have been relaxed. Previously, PR-23 allowed persons to make experimental models of products that they were not otherwise allowed to make under existing W. P. B. orders and regulations. It required W. P. B. authorization to spend more than $5,000 in a single plant in any calendar month in making models.

Fluorescent Lighting Fixtures—Order L-78 governing manufacture and distribution of fluorescent lighting fixtures, has been revoked. Other orders and regulations that affect manufacture and distribution of the fixtures remain in force, however, W. P. B. pointed out. L-78 was originally issued in April, 1942, to effect savings in steel, copper, mercury and other materials.

Fuses—L-161 which prohibited the use of vulcanized fiber tubing in non-renewable fuses, with five exceptions, and the use of copper or copper-base alloys in non-renewable fuses except in current-carry parts on which controlled distribution has been revoked.

Heating Equipment—Limitation orders covering four types of heating equipment—oil burners (L-74), coal stokers (L-75), floor and wall furnaces (L-175) and cast iron boilers (L-187) have been revoked. Production and delivery of products controlled by these five orders are still subject to other applicable regulations and orders. Order L-74 limited production of domestic type, class B, oil burners to quotas established by W. P. B. on a quarter basis. Order L-75, which covered coal stokers with grate are of 36 sq. ft. or less, also limited production to quotas established by W. P. B. on a quarterly basis. Order L-173 permitted production of floor and wall furnaces only for the military services and upon specific W. P. B. authorization for civilian use. Order L-187 limited production of cast iron boilers to 25 per cent manufacturers' 1940 quarter output.

Iron and Steel—The W. P. B. has announced certain clarifications of Order M-126, which restricts the end use of iron and steel in certain products, through the issuance of Direction No. 1 to this order. This order contains many cross references to other W. P. B. orders, directions or schedules, some of which have already been revoked; others may be revoked in the near future. Such revocations have the following effect with respect to Order M-126, according to Direction 1, W. P. B. has pointed out: The use of steel is prohibited by Order M-126 in the manufacture of certain items except as permitted under some other order. If the other order is revoked, the use of steel in the manufacture of articles formerly covered by the exception and by the revoked order is not restricted by M-126. For example, list A of Order M-126 contains the item "Sign hanger frames, except as may be permitted under Order No. L-29." Order L-29 has been revoked and, therefore, the provisions of M-126 do not apply to the use of iron or steel in the manufacture of sign hanger frames.

Metal Plastering Bases—Limitation orders covering metal plastering bases and accessories, L-59-b, metal windows, L-77, and electric fuses, L-161, were revoked by the W. P. B. in accordance with its policy of speedily removing controls no longer necessary. Products covered by the three orders are still subject to other applicable W. P. B. regulations and orders. L-59-b as most recently amended (May, 1944) imposed specific weight limitation on the manufacture of certain types of metal plastering bases and accessories and restricted sales to purchase orders rated AA-5 or better, and to orders amounting to $5 or less. Restrictions on the use of bases and accessories were removed from the order at that time. Permitted uses are listed in the war housing critical list, Order P-55-c, Schedule 1, for war housing and in controlled materials plan regulation No. 6, schedule A, for other authorized construction.

Metal Windows—Order L-77 which restricted the sale of metal windows to purchase orders rated AA-5 or better; permitted the use of aluminum or magnesium in the manufacture of storm windows and the use of other metals in storm windows if such metals were obtained from idle or excess inventories has been revoked.

Office Supplies—Limitation Orders L-73 (governing the use of iron and steel in certain types of office supplies) and L-227-b (restricting production of wood-cased and other non-mechanical pencils and pen holders) have been revoked, but other controls that may affect the acquisition and use of materials continue in effect.

Portable Tools—Order L-216, which provided for the simplification and standardization of portable tools, chucking equipment, mechanics' hand service tools, files, hack and band saws, vises and machine tools accessories has been revoked. Schedules V and VI of L-216, covering files and vises were revoked October 6, 1944, W. P. B. said. The remaining schedules, included in the May 8, revocation order, were: Schedule I, issued December 4, 1942, covering universal portable tools such as drills, grinders, right angle buffers, sanders and polishers, and saws; Schedule II, issued May 31, 1943, covering wrenches; Schedule III, issued May 31, 1943, covering pliers and nippers; Schedule IV, issued June 3, 1943, covering rotary files and burrs; Schedule VII, issued July 29, 1944, covering hack saw blades; Schedule VIII, issued July 29, 1944, covering hard edge flexible back saws.

The manufacture and delivery of the items remain subject to any other applicable orders and regulations of W. P. B.

Scales, Balances and Weights—Order L-190, originally issued October 10, 1942, to govern production and distribution of scales, balances and weights, has been revoked.

Sprocket Chains—Order L-193-a, which placed a 45-day inventory limit on sprocket chains, sprocket chain attachment links and sprocket chain wheels has been revoked.

Standard Railroad Watches—Order L-175, controlling the distribution of railroad standard watches, new and used, has been revoked. Production of this type of watch was not controlled by the order and therefore will not be affected by the revocation.

Steel, Copper and Copper Base Alloys—Special sales of idle, excess or surplus steel, copper and copper base alloy, or aluminum in controlled material forms may now be made to anyone without W. P. B. authorization and without requiring the buyer to use a CMP allotment symbol or number. The action, taken through amendment No. 2 to PR-13, special sales, removes the special sales restrictions formerly applying to these controlled materials.

Typewriters—Restrictions on production and delivery of typewriters have been removed through revocation of limitation order L-54. Authorization on form WPB-1319 is no longer required for the purchase of a new typewriter.

Prices

Lime—An increase of 65 cents a net ton in the f. o. b. plant ceiling prices for all building, chemical and industrial lime, except agricultural lime, produced in Virginia, North Carolina, South Carolina, Georgia, Alabama, Tennessee, Mississippi and Louisiana has been announced in amendment 77 to Order No. A-1 under section 1499. 159B of MPR-188, effective May 12.

GENERAL NEWS

N.Y.C. Conducting Dining Car Survey

4,000 travelers asked to constitute a "vast post-war planning committee"

Aboard the Twentieth Century Limited, Commodore Vanderbilt, Empire State Express, Pacemaker, Mercury and other leading New York Central trains, the company currently is asking some 4,000 passengers by questionnaire to constitute themselves a "vast post-war planning committee, and give us your ideas for the dining car of tomorrow."

And the new questionnaire—a 20-page, brightly illustrated booklet—is said by F. H. Baird, general passenger traffic manager, to have sprung from the hundreds of requests of men and women who, when responding to the earlier coach and sleeping car surveys, asked "Why not the most important car of all, the diner?"

Passenger preferences are solicited in the matter of car design, location in the train, formality or simiplicity of service, lighting, air-conditioning, and many anticipated conveniences. Arrangement of seats is also the subject of inquiry.

Dining service in the coaches comes in for consideration as well, with possibilities including such choices as box lunches sold by waiters, sandwiches sold by waiters, tray service (hot meal), or an inexpensive meal in a dining car. For the traveler who may wish to go further, the idea of special food vending machines bearing sandwiches, coffee, milk, candy, etc., is suggested for the rear of the coaches.

Sample dining car breakfasts, luncheons and dinners are listed, together with possible prices for comparative purposes. For the traveler with "thriftier tastes," a sample grill dining car menu is offered in place of the more elaborate table d'hote meals of the regular dining car.

What about these dining car details: car temperature, lighting, type of window, dining car seat reservations, table settings, and standard dinner plate or partitioned plate?

Should entertainment appeal to the traveler, he can add a check to the question of converting the dining car into a "cafe" car after dinner hours. And he can speculate, too, about sitting in on motion pictures.

Even a railroad credit card, such as is used by hotels, has been thought of, and for the passenger who specifies his favor of the sale of liquor aboard trains, he can "check as many boxes as describe his opinion: Cocktail hour before dinner, in lounge car at all times, in lounge car after dinner, or while dining only.

There is the "Sneers and Cheers Department" for the diner who, after making allowances for wartime conditions, wishes to register a particular like or dislike.

Biddle Gets Bumped

President Truman on May 23 announced that Attorney General Biddle was one of several high-ranking government officials whose resignations he had accepted, effective June 30. The retiring Attorney General was appointed by President Roosevelt on September 5, 1941. The President has named Tom C. Clark of Texas, now assistant attorney general, to succeed him.

Forwarder-Truck Rates Get Their 9-Months Reprieve

On May 16, the previous deadline day, President Truman signed H.R. 3038, the bill which had been rushed through Congress to extend for another nine months the period within which forwarders must change over from joint-rate arrangements with truckers to the use of assembling and distribution rates published by the carriers. As noted in the *Railway Age* of May 19, page 910, Congressional action on the measure was completed May 15 when the Senate passed the House-approved bill without amendment.

Michigan Central Wins Top Honors in Safety Contest

The Michigan Central has been awarded top honors by the National Safety Council in the 1944 Railroad Employees' National Safety Contest for Class I railroads whose employees worked from 20,000,000 to 50,000,000 man-hours. The winner's casualty rate for 1944 (employees killed plus injured per 1,000,000 man-hours worked) was 4.63. This compares with an average rate of 14.56 for the railroads in the same classification of the contest. The contest, which covers only accidental deaths or injuries to employees while on duty, is based on Interstate Commerce Commission figures.

April Operating Revenue Up 1.6 Per Cent

From preliminary reports of Class I roads representing 81.1 per cent of total operating revenues, the Association of American Railroads has estimated that the April gross totaled $625,947,359, an increase of 1.6 per cent above the $616,172,127 reported for April, 1944. Estimated April freight revenues were $476,388,215, compared with $454,526,211, an increase of 4.8 per cent. Estimated passenger revenues were $104,860,264, compared with $118,950,913, a decrease of 11.8 per cent.

Dedicate Milwaukee-Rock Island Bridge

Named for President, new span at Kansas City is to be opened on June 1

With a civic meeting and luncheon sponsored by the Kansas City Chamber of Commerce, the new and outstanding multiple-span bridge of the Chicago, Milwaukee, St. Paul & Pacific and the Chicago, Rock Island & Pacific, over the Missouri river at Kansas City, Mo., was dedicated on May 23, and was named the Harry S. Truman bridge, in honor of the President of the United States who began his political career in this area. Regular train service over the new structure will be inaugurated on June 1. As a part of the dedication program, addresses were made by H. A. Scandrett and J. D. Farrington, chief executives, respectively, of the Milwaukee and the Rock Island, co-owners of the bridge, which will afford a materially improved entrance into Kansas City for both roads. Delayed somewhat by difficulties arising out of the war, the new bridge will be opened for traffic on June 1, almost three years after construction was begun.

The new Harry S. Truman bridge is a single-track structure with a total length of 2,615 ft., and is made up of four through-truss spans, including three 250-ft. fixed spans and one vertical lift span 420 ft. long; 17 deck plate-girder spans, each 78 ft. long, and one deck girder span 45 ft. long. The structure embodies the latest developments in bridge design, including several new and original features.

All piers and abutments are of reinforced concrete. The river piers, reaching to a stratum of shale 80 ft. below low water, were sunk by the pneumatic process, while the abutments and the remaining piers are founded on piles. The vertical lift span provides a channel width of 400 ft. and a vertical clearance above low water of 70 ft. It is operated by means of electric power, with provision for emergency operation by means of a gasoline engine, in case the electric power should fail. The normal clearance of the lift span above low water is 34 ft., so that the total vertical movement of this span is 36 ft.

Complete automatic safety controls, interconnected with the railway signal system, govern the operation of the span. Through these controls, it is impossible to open the span when the signals are set for train movements over the bridge. Conversely, all signals are set to stop train movements when the span is open or is about to be opened.

The structure is designed throughout for

The New Harry S. Truman Bridge Over the Missouri River at Kansas City, Mo.

Cooper's E-72 loading. The fixed spans are all of carbon steel, but the lift span contains a large amount of alloy steel. The bridge alone cost $2,250,000, and with the approaches the cost exceeded $3,000,000. The project as a whole required 4,300 tons of structural steel, 275 tons of machinery and incidental equipment, 15,000 cu. yd. of concrete, 400 tons of reinforcing steel and 66,000 lin. ft. of timber piles.

Orders in Seatrain Cases

The Interstate Commerce Commission has denied the petition of eastern railroads for indefinite postponement of the commission's order in the No. 25727 proceeding requiring the establishment of joint rates with Seatrain Lines, Inc., over routes via the ports of New York and New Orleans, La. In an order in the Nos. 25728 and 25878 proceedings, the commission has denied another railroad petition which sought to eliminate, from the order requiring interchange of cars with Seatrain, that stipulation to the effect that per diem on the cars interchanged would be at the regular rate payable only for such period as the cars are in Seatrain's actual possession.

Suggests Tighter Rules to Run Against Current of Traffic

The derailment, on April 8, of a Wabash passenger train at Clarksdale, Ill., causing the death of two employees and the injury of 20 passengers and three employees, was the result of the train entering an open switch at a high rate of speed, according to the report of an investigation by the Interstate Commerce Commission under the supervision of Commissioner Patterson.

The accident occurred at 11:15 a. m. on the road's double-track main line from Decatur, Ill., to St. Louis, Mo., in territory where trains moving with the current of traffic were operated by timetable, train orders, and an automatic block signal system. Movements against the current of traffic were by timetable, train orders, and a manual block system.

The train involved, No. 4, the 6-car "Detroit Special," was moving northbound on the southward track at a speed of 66 m. p. h., in territory where the maximum authorized speed was 80 m. p. h., when it entered the south switch of a crossover at Clarksdale and was derailed. According to some of the testimony outlined in the report, this switch, of the hand-throw, low stand type, had been lined for movement through the crossover by the front brakeman of a freight which was engaged in movements on the northward track as a result of a derailment.

No. 4 was operating under a train order establishing single-track operation on a 12-mile segment of the northward track in the vicinity of Clarksville, and under the rules could operate at the maximum authorized speed. The automatic block signal system in use does not provide protection for movements against the current of traffic, the report pointed out, "and the means provided to authorize and govern such movements do not afford equivalent protection. If the passenger train involved in this accident had been required to approach facing-point switches under control when operating against the current of traffic this accident might have been prevented."

The train's brakes were applied in emergency just before the accident occurred. The engine stopped on its left side with its front end 531 ft. north of the point of derailment. The tender was torn loose from the engine. The first car stopped on its right side in the same vicinity. The second to fifth cars, inclusive, stopped practically upright in various positions east of the northward track. The engine and first three cars were badly damaged and the other three cars were slightly damaged.

Oil to East Moving Faster

The railroads celebrated V-J week, according to Deputy Petroleum Administrator Davies, by moving an average of 555,208 barrels of crude oil and petroleum products daily into the Atlantic coast area by tank car, a new record for the past eight months. This result, for the week ended May 12, grew out of improved handling of available tank cars throughout the territory, he said, and the continued release of cars previously tied up by floods.

"The improvement in tank car movements comes at a time when every gain in transportation is in the nature of a victory," Mr. Davies pointed out. "Tank cars will, of necessity, carry a large part of the burden added to overland transportation because of the tanker diversion." He explained that every advantage is being taken of available transportation at present in anticipation of a "marked drop" in East coast shipments as cars are shifted to West

coast runs to meet military demands. This drop, he declared, will come at a time when it is expected that few, if any, tanker vessels will be available for moving civilian petroleum products to the Atlantic seaboard.

Dr. Yellott Heads Locomotive Development Committee

Dr. John I. Yellott has been appointed to direct the $1,100,000 program of the Locomotive Development Committee consisting of representatives of six railroads, originators of heavy bituminous tonnage, and three bituminous mining companies, which was formulated at a meeting at New York in January as reported on page 211 of the January 20 *Railway Age*. Bituminous Coal Research, Inc., will handle the research project which is intended to increase the efficiency of the steam locomotive through the use of powdered coal, the development of turbines, and the application of newer steam-power principles.

Dr. Yellott, who will make his headquarters in Baltimore, Md., has been the director of the Institute of Gas Technology of the Illinois Institute of Technology and is the inventor of a method of pulverizing coal through the direct action of moderate steam power. During the war he has served as chairman of the Institute's war-training committee which has trained over 50,000 men and women for essential technical positions.

Dr. Yellott is a graduate and post-graduate of Johns Hopkins University. He has been a member of the faculties of the University of Rochester and Stevens Institute of Technology and has published many technical papers upon subjects related to steam generation and utilization. He is a member of the American Society of Mechanical Engineers, also of the executive committee of its Power division.

Chicago Industry Backs Railroad Rate Methods

Legislation authorizing continuance of present rate-making practices of common carriers was recommended unanimously last week by the transportation committee and the industrial traffic council of the Chicago Association of Commerce. These procedures are under attack by the United States Department of Justice in the anti-trust suit now pending in the federal court at Lincoln, Nebr. Several bills, including two by Rep. Alfred L. Bulwinkle, have been introduced which would remove rate-making practices, to the extent from provisions of the Sherman Anti-trust law.

Says I. C. C. Lacks Authority in Complaint on Passes

Examiner J. P. McGrath has recommended in a proposed report that the Interstate Commerce Commission dismiss for lack of jurisdiction a complaint wherein the Dining-Car Employees' Union, Local No. 351, is alleging that its members are unduly prejudiced by the refusal of the Atchison, Topeka & Santa Fe to issue passes to them on the same basis as to such employees as flagman, conductors, etc. The examiner finds that Interstate Commerce Act provisions authorizing the issuance of free transportation to employees are permissive, and that carrier activities thereunder are not within the purview of section 3 (1)'s prohibitions against undue prejudice or preference.

The employees involved are engaged in the Fred Harvey service, and the complainant union relied on the fact that the commission has previously defined their work as that of employees of a common carrier, thus bringing them under the Railway Labor Act. The examiner noted that the function of the commission in that previous proceeding was limited to the particular question under consideration. The present proceeding is docketed as No. 29195.

Emergency Boards Appointed

President Truman has appointed emergency boards to investigate disputes which brought strike threats to the Colorado & Wyoming and the River Terminal of Cleveland, Ohio. The C. & W. board, appointed on May 18, consists of Ridgely P. Melvin, H. Nathan Swaim, and Eugene L. Padberg. Members of the R. T. board, appointed on May 23, are Richard F. Mitchell, Roger I. McDonough, and Robert W. Woolley.

Mine Workers' Affiliate Wins Western Maryland Enginemen

Engineers, firemen, hostlers, and hostler helpers employed by the Western Maryland have chosen the Railway Workers Industrial Union Division, District 50, United Mine Workers of America, as their collective bargaining representative under the Railway Labor Act, according to results of recent elections which have been certified by the National Mediation Board. The engineers and firemen were formerly represented by the Association of Locomotive Enginemen of Maryland, Inc., while the hostlers were represented by the Western Maryland Employees' Association, Inc.

The Mine Workers affiliate won the engineers by a vote of 102 to 48 for the Association and 48 for other organizations or individuals. The vote in the firemen and hostlers election was 160 to 23 for the Association and 39 for other organizations or individuals.

In other recent elections the Brotherhood of Railroad Trainmen supplanted the Order of Railway Conductors as representative of road conductors employed by the Winston-Salem South Bound; but the O. of R. C. got the benefit of a tie vote with the B. of R. T. and retained its right to represent Baltimore & Eastern road conductors. The Railroad Yardmasters of America has supplanted the B. of R. T. as representative of yardmasters employed by the St. Louis-San Francisco and St. Louis, San Francisco & Texas; and it has beaten a B. of R. T. challenge on the Wheeling & Lake Erie, retaining its right to represent yardmasters there.

Meanwhile the B. of R. T. has won the right to represent the previously-unrepresented yardmasters employed by the Union of Pittsburgh, the Lake Terminal, and the San Antonio, Uvalde & Gulf. The Rio Grande Watchmen's Association has supplanted the National Council of Railway Patrolmen's Unions, American Federation of Labor, as representative of patrolmen (including watchmen) in the police department of the Denver & Rio Grande Western; while the A. F. of L. union has been chosen by the previously unrepresented patrolmen (special agents) in the Houston Belt & Terminal's police department. Power house employees and railway shop laborers on the latter road have transferred their allegiance from the Association of Boiler Washers, Coach Cleaners, Shop, Repair Track and Roundhouse Laborers to the International Association of Railway Employees.

Equipment on Order

Class I railroads on May 1 had 33,727 new freight cars on order, according to the Association of American Railroads. On the same date last year they had 44,458 on order. The May 1, 1945, figure included 5,350 hopper, 5,363 gondolas, 1,332 flat, 17,607 plain box, 1,800 automobile, 2,188 refrigerator, and 37 stock freight cars and 50 miscellaneous cars.

They also had 554 locomotives on order on May 1, compared with 705 on the same day in 1944. The former figure included 125 steam, two electric, and 427 Diesel-electric locomotives compared with 228 steam, two electric and 475 Diesel-electric one year ago.

Class I roads put 16,314 freight cars in service in the first four months this year compared with 10,062 in the same period last year. Those installed this year included 5,190 hopper, 2,623 gondola, 66 flat, 202 stock, 334 refrigerator, 477 automobile box, and 7,422 plain box freight cars.

They also put 55 new locomotives in service in the first four months, of which 13 were steam, and 42 were Diesel-electric. New locomotives installed in the same period last year totaled 191, which included 32 steam and 159 Diesel-electric.

T. P. & W. Ordered Back to Owners

On May 19 Judge Walter J. LaBuy of the Federal District Court at Chicago ruled that the Toledo, Peoria & Western was illegally held under federal control by the Office of Defense Transportation, and ordered that it be returned to its owners.

This decision was based on the fact that, after the War Department took over all railways on December 27, 1943, to avert a threatened nation-wide strike, the termination order of January 18, 1944, covered all railways, and, according to Judge LaBuy, this order "terminated possession and control by any agency, department or officer of the United States. Therefore, the director of the O. D. T. did not have the legal right to assume possession of the plaintiff's railroad after January 18, 1944, and in the absence of further action by the President of the United States, the property should be returned to the plaintiff." The judge further stated that, if the plaintiff elected to sue the federal government for compensation on any claims, a separate action would have to be filed.

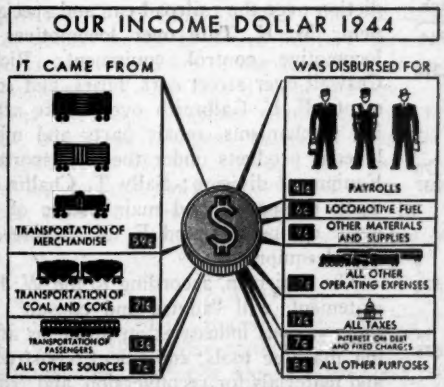
The decision is the latest development in the stormy history of this 239-mile line, which serves as a connection between eastern and western carriers, via Peoria, Ill., avoiding the Chicago gateway. For some years, the railway's president, George P. McNear, Jr., refused to recognize so-called

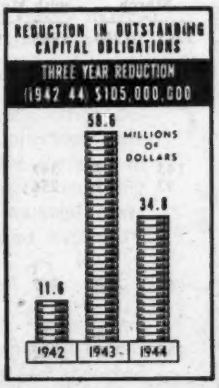
(*Continued on next left-hand page*)

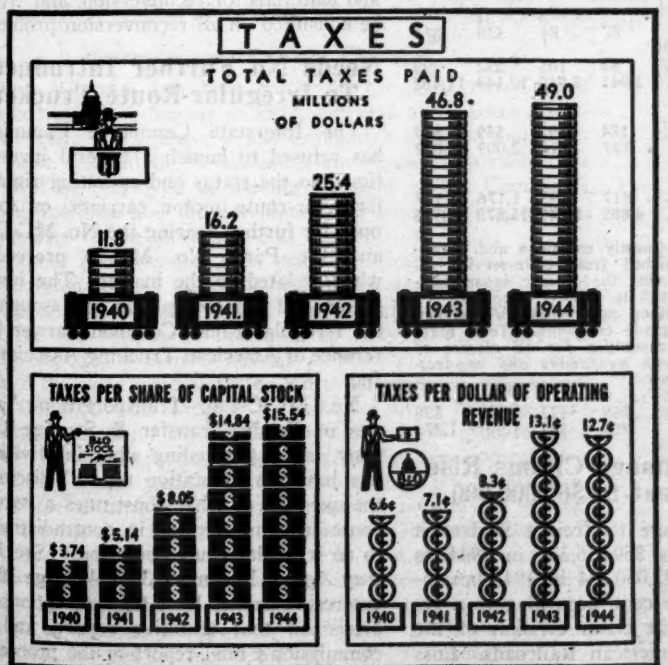
THE BALTIMORE AND OHIO RAILROAD COMPANY

Summary of the 118th Report • Year Ended December 31, 1944

	Year 1944	Compared with 1943
Earnings:		
From operations—transporting freight, passengers, mail, express, etc.	$387,193,036	I $29,050,884
From dividends and interest on securities owned, rents, etc.	7,741,295	D 896,674
Total	$394,934,331	I $28,154,210
Expenses:		
Payrolls, fuel, material, etc.	$287,068,754	I $36,484,401
Taxes	48,984,845	I 2,227,636
Equipment and Joint Facility Rents	9,823,057	I 890,685
	$345,876,656	I $39,602,722
Other charges—principally rent for leased roads and equipment, interest on debt, etc.	28,143,237	D 1,853,470
Total	$374,019,893	I $37,749,252
Net Earnings	$ 20,914,438	D $ 9,595,042
Disposition of Net Earnings:		
Additions and betterments to Company property	$ 4,906,110	D $ 146,370
Appropriated for sinking and other reserve funds—to retire debt	8,021,881	D 11,097,232
Other appropriations	45,188	I 1,309
Added to the Company's surplus	7,941,259	I 1,647,251
Total	$ 20,914,438	D $ 9,595,042


OUR INCOME DOLLAR 1944
IT CAME FROM
WAS DISBURSED FOR
TRANSPORTATION OF MERCHANDISE 59¢
TRANSPORTATION OF COAL AND COKE 21¢
TRANSPORTATION OF PASSENGERS 13¢
ALL OTHER SOURCES 7¢
41¢ PAYROLLS
6¢ LOCOMOTIVE FUEL
9¢ OTHER MATERIALS AND SUPPLIES
ALL OTHER OPERATING EXPENSES
12¢ ALL TAXES
7¢ INTEREST ON DEBT AND FIXED CHARGES
8¢ ALL OTHER PURPOSES





Freight and passenger traffic handled in 1944 exceeded all previous records, due largely to the heavy tonnage of war supplies, troop movements and other war travel. Totals were 147,314,981 tons and 14,303,937 passengers.

The tremendous task of moving this extremely heavy traffic volume was accomplished through the continued cooperation of the various agencies of the Government, shippers, and the public generally, in the conservation of equipment and manpower and in meeting the unusual war-time conditions.

Operating Revenues—$387,193,036, and Operating Expenses—$287,068,754—were highest in the Company's history.

The Company's tax bill at $48,984,845, was larger in 1944 than ever before. During 1944 debt of the Company was reduced by $34,801,828. Total debt reduction during the last three years was more than $105,000,000.

The President and Directors acknowledge with grateful appreciation the loyalty and cooperation of stockholders and others interested in the Company's success; the Army, Navy and other agencies of the Government; our patrons, whose patriotic understanding of present day conditions has been most helpful; and, the officers and employees, without whose enthusiastic support we could not have accomplished the tremendous task of 1944.

More than 16,000 employees of the Company have been furloughed for military service and more than 150 of these have given their lives for their country.

R. B. WHITE, *President*

"standard" or "featherbed" rules as applicable to his railway, and eventually a strike was called late in 1941. This strike was marked by considerable violence on the part of the strikers. For several weeks, also, letters and telegrams were exchanged between Mr. McNear and the late Joseph P. Eastman, then Director of Defense Transportation, looking toward a termination of the strike, but to no avail. Finally, President Roosevelt entered the controversy, but this also failed to move Mr. McNear from the stand he had taken demanding "a fair and impartial hearing."

The government seized the line on March 21, 1942, and Mr. Eastman appointed John W. Barriger as federal manager. He was succeeded by Holly Stover, who retains the title, as well as being president of the Chicago & Eastern Illinois. Since the taking over of the T. P. & W. by the government, President McNear has unremittingly continued his fight to have it restored to private operation. At one time he and two other officers of the road were tried under the Railway Labor Act on charges of coercing and intimidating employees seeking to organize a brotherhood local, but were acquitted. Litigation continued, and on March 24, 1943, President Roosevelt forbade payment of dividends to the stockholders and withheld payment of what the O. D. T. termed "excessive salaries of executives." When the O. D. T. increased the salaries of the employees and made changes in the working rules in 1942, the owners of the railway filed suit in the Circuit Court of Macomb, Ill., asking an injunction against "unnecessary expenditure of company funds by government operators."

Under Judge LaBuy's decision the T. P. & W. will continue to be operated by the O. D. T. for another 30 days, unless an appeal is made. If this happens, federal control will continue until a higher court renders a decision.

Western Railway Club Elects Officers

At the annual meeting of the Western Railway Club, held in the Hotel Sherman at Chicago on May 21, the following officers were elected for the ensuing year:

President, J. M. Nicholson, assistant to the vice-president, Atchison, Topeka & Santa Fe; first vice-president, T. D. Beven, vice-president, Elgin, Joliet & Eastern; second vice-president, W. S. Morehead, general storekeeper, Illinois Central; treasurer, A. Schiffers, Jr., purchasing agent, Union Tank Car Company; executive secretary, Earl E. Thulin, Earl E. Thulin Company Directors; J. E. Goodwin, chief mechanical officer, Chicago & North Western; A. G. Hoppe, assistant chief mechanical officer, Chicago, Milwaukee, St. Paul & Pacific; Armstrong Chinn, general manager, Alton; G. A. Haggander, assistant chief engineer, Chicago, Burlington & Quincy; A. C. Mann, vice-president, Illinois Central; E. G. Roberts, general storekeeper, Chicago, Rock Island & Pacific; Ross Blackburn, district manager, railroad sales, Buda Company; John W. Burnett, manager, railway supplies division, Reynolds Metals Company; D. I. Packard, district manager, Baldwin Locomotive Works; George H. Snyder, vice-president, American Steel Foundries; J. H. Van Moss, western sales manager, American Car & Foundry Co., and Lawrence Wilcox, representative, Westinghouse Air Brake Company.

Charge Elkins Act Violations

Secretary W. P. Bartel of the Interstate Commerce Commission has announced that on May 2 an information in 25 counts was filed in the federal court at Detroit, Mich., against the Detroit, Toledo & Ironton, charging that road with willful failure strictly to observe its traffics and with granting concessions, both offenses being in violation of section 1 of the Elkins act. The offenses, according to Mr. Bartel, related to carload shipments originated by the carrier at Ecorse, Mich., billed as scrap plates and as scrap steel plates and consigned to various destinations. The matter was investigated by the commission's Bureau of Inquiry.

March Accident Statistics

The Interstate Commerce Commission on May 17 made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for March and the first three months of 1945, compared with the same 1944 periods. The compilation, which is subject to revision, follows:

Item	Month of March		3 months ended with March	
	1945	1944	1945	1944
Number of train accidents*	1,530	1,478	4,714	4,216
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	143	87	347	270
Injured	93	97	256	237
Passengers on trains:				
(a) In train accidents*				
Killed	...	...	1	7
Injured	64	90	517	328
(b) In train-service accidents				
Killed	8	4	16	14
Injured	182	222	622	635
Travelers not on trains:				
Killed	...	2	1	3
Injured	82	84	330	273
Employees on duty:				
Killed	82	105	252	292
Injured	3,941	3,942	12,144	11,483
All other nontrespassers:**				
Killed	184	197	559	587
Injured	527	614	2,009	2,029
Total—All classes of persons:				
Killed	417	395	1,176	1,173
Injured	4,889	5,049	15,878	14,985

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and non-trespassers,* were as follows:

Persons:				
Killed	169	177	514	528
Injured	269	381	1,201	1,273

Loss and Damage Claims Rise 42.1 Per Cent to $60,000,000

Loss and damage to freight in transit cost the railroads $59,756,336 in 1944 as compared with $42,050,364 in 1943, an increase of 42.1 per cent, according to a report of the freight claim division of the Association of American Railroads. Loss incurred in the handling of carload freight increased 39.1 per cent from $29,258,430 in 1943 to $41,062,900 in 1944. Damage claims to l.c.l. freight rose from $12,521,934 in 1943 to $18,693,436 or 49.3 per cent.

The report reveals that 45.7 per cent of the total, or $27,281,546, was charged to unlocated damage of freight in packages, $7,096,082, or 11.9 per cent, to concealed damage (largely to l.c.l. freight), $6,368,265, or 10.7 per cent, to unlocated damage to freight not in packages, and $5,082,706, or 8.5 per cent, to loss of the entire package (again largely to l.c.l. traffic). There was little change in the relative susceptibility of various commodities to loss and damage as reflected in the per cent of the total damage assigned to each commodity grouping during the two years.

Name "Reconversion Chairmen" for Equipment Industry

The War Production Board has announced the selection of "reconversion chairmen" for some 400 industries as a step in its program to facilitate, as far as the requirements of the armed services permit, the change over of industry from military to civilian production during the period—termed by the W. P. B. "Period One"—between the victory in Europe and the victory over Japan.

In the Transportation division, the "reconversion officer" for which is James M. Hennigan, six reconversion chairmen have been named. James D. Driscoll has jurisdiction over the railroad car and specialties field; M. K. Tate over locomotives and locomotive control equipment; Richard Caswell over street cars, buses, and equipment; F. L. Galbraith over brake actuating mechanisms, repair parts and miscellaneous products under the Transportation Equipment division; Sally T. Challis over track equipment and maintenance of way work equipment; and E. M. Moore over signal equipment.

The chairmen, according to the W. P. B. statement, will "advise and consult" with their various industries on problems affecting machine tools, equipment, construction and materials for reconversion, and "should be consulted on all reconversion problems."

Needs No Further Introduction To Irregular-Route Truckers

The Interstate Commerce Commission has refused to launch a general investigation into the status and operating rights of irregular-route motor carriers, or to reopen for further hearing the No. MC-C-246 and Ex Parte No. MC-10 proceedings which related to the matter. The investigation and reopenings had been sought by the Irregular Route Common Carrier Conference of American Trucking Associations, Inc.

No. MC-C-246, Transportation Activities of Brady Transfer & Storage Company, is the proceeding wherein Division 5 has issued a "tentative report" discussing the question of what constitutes a regular-route trucking service in contradistinction to an irregular-route operation. (See *Railway Age* of December 30, 1944, page 1007). Interested parties have filed exceptions and briefs on that tentative report, and the commission's final report in the proceeding is yet to come. The Ex Parte No. MC-10 proceeding was that wherein the commis-

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THE NEW YORK CENTRAL RAILROAD COMPANY

ANNUAL REPORT

To the Stockholders:

During 1944 the war continued to dominate the transportation situation. The total volume of inter-city freight moved by United States railroads and all other inland transportation agencies exceeded one thousand billion ton miles. The railroads handled about 74% of this huge volume. Railroad passenger traffic rose to ninety-eight billion passenger miles—almost four times the volume of 1940. Despite limitations of manpower and equipment, the railroads have fully met these tremendous transportation needs of the nation at war. The New York Central carried about one-eighth of the passenger load and about one-fifteenth of the freight load of the rail carriers.

While gross earnings of the Company in the year just ended reached a new high, net earnings were substantially lower than in 1943, due largely to increased wage and material costs. Net income of the Company was $35,789,939, or $5.55 per share.

Operating Results

Total operating revenues were 1.3% more than in 1943. Passenger revenues increased 11.7% while freight revenues declined 2.6%.

The volume of revenue freight moved, as measured by the number of tons moved one mile, was 5.5% under that of 1943. The revenue per ton mile was 9.02 mills, the lowest since 1919, except in 1942 (8.65) and in 1943 (8.75).

Passenger traffic, as measured by the number of passengers carried one mile, reached a new high record, 9.2% above the level of 1943. Revenue per passenger mile averaged 1.948 cents, compared with 1.905 cents in 1943. The continued heavy movement of armed forces in active military service, and travel at reduced fares by members of the armed forces on furlough made up a large part of this record passenger load.

Railway operating expenses (not including taxes, other deductions, and fixed charges) increased over the previous year by $54,502,534, or 11.4%. Although there was some increase in charges for depreciation and amortization, the heavier operating expenses were due chiefly to higher wage and material costs and resulted in an operating ratio of 74.39, compared with 67.60 in 1943.

Taxes

Railway tax accruals, amounting to $98,372,903, were lower than in 1943 by 19.4%, due mainly to smaller income and excess profits taxes. Such accruals equaled $268,778 a day and absorbed approximately 14 cents of every dollar of gross operating revenues.

Research and Post-war Planning

Further progress has been made by the Research Council established by the Company in 1942. Surveys and studies affecting practically every phase of the Company's business and operations have resulted in the accumulation of much valuable data which will be employed in the improvement of the Company's plant and facilities and the development of more efficient operating practices in the post-war era.

Substantial progress has been made in scientific tests looking to the development of motive power of greater availability and efficiency. An advanced design of high-capacity, coal-fired steam locomotive for high-speed operation or heavy freight duty has been developed and is now nearing completion. A second locomotive of the same general design but to be equipped with poppet valves, has also been ordered for comprehensive tests and experimental operation. In conjunction with several other eastern railroads the Company is participating in the development of a coal-burning steam turbo-electric locomotive. Two 5,400-horsepower Diesel-electric freight locomotives are now in use in road freight service and four 6,000 horsepower Diesel-electric locomotives are under construction for use in road passenger service.

Radio as a means of communication has been installed experimentally at several points in yard operation and its use experimentally on certain sections of main line track is planned. Information surveys conducted among passengers using the Company's trains have afforded a basis for determining the character of 300 new, light-weight, streamlined passenger train cars ordered during the year.

Income Account

	1944	1943
RAILWAY OPERATING REVENUES:		
Freight (Note A)	$468,283,532	$480,665,605
Passenger	180,965,132	162,017,837
Mail	13,613,142	12,908,893
Express	13,953,905	13,778,434
All Other	38,147,674	36,754,064
Total	$714,963,385	$706,124,833
RAILWAY OPERATING EXPENSES:		
Maintenance of Way and Structures (Note B)	$106,222,923	$89,735,382
Maintenance of Equipment (Note C)	127,501,305	120,590,944
Traffic	9,283,768	7,987,109
Transportation	261,400,205	234,558,397
General and All Other	27,431,432	24,465,267
Total	$531,839,633	$477,337,099
NET REVENUE FROM RAILWAY OPERATIONS	$183,123,752	$228,787,734
Operating Ratio	74.39	67.60
Tax Accruals	98,372,903	122,035,845
Net Debits for Equipment and Joint Facility Rents	18,991,765	18,227,592
NET RAILWAY OPERATING INCOME	$65,759,084	$88,524,297
Other Income (Note D):		
Miscellaneous Rent Income	$4,482,216	$4,254,857
Separately Operated Properties	1,065,989	1,821,325
Dividend Income	5,343,773	5,335,004
Income from Funded Securities	4,210,473	4,191,012
Miscellaneous	4,925,974	5,531,508
Total	$20,028,425	$21,133,706
TOTAL INCOME	$85,787,509	$109,658,003
Miscellaneous Deductions from Income	3,809,769	1,587,495
Income Available for Fixed Charges	$81,977,740	$108,070,508
Fixed Charges:		
Rent for Leased Roads and Equipment (Note D)	$20,753,411	$21,095,814
Interest on Funded Debt	22,745,736	23,563,322
Interest on Unfunded Debt	2,675,500	672,121
Amortization of Discount on Funded Debt	13,154	5,201
Total	$46,187,801	$45,336,458
NET INCOME TRANSFERRED TO EARNED SURPLUS	$35,789,939	$62,734,050
Note A—After deduction of for estimated refund to United States Governmental Agencies on account Land Grant Equalization	$778,415	$883,010
Note B—Includes amortization and depreciation on roadway property	$10,411,956	$8,965,011
Note C—Includes amortization and depreciation of equipment	$29,765,003	$28,193,575
Also includes depreciation of power-plant machinery	$854,310	$866,044
Note D—Included in other income and rent for leased roads are certain inter-company transactions representing credits and corresponding debits amounting to	$3,184,562	$3,092,960
Other income also includes items representing interest and dividends amounting to received on securities of and advances to terminal and other railroad companies whose properties are jointly used by this Company, as to the major portion of which a like amount was paid to those companies as rental and included in joint facility rents.	$1,459,482	$1,461,431

Earned Surplus Account

BALANCE TO CREDIT OF EARNED SURPLUS—JANUARY 1, 1944		$253,486,928
ADDITIONS:		
Net Income for the Year 1944	$35,789,939	
Sundry Items	159,859	35,949,798
		$289,436,726
DEDUCTIONS:		
Dividend Appropriations of Surplus	$9,671,091	
Surplus Appropriated for Investment in Physical Property	26,904	
Miscellaneous Appropriations of Surplus	Cr. 279,615	
Retirement of Road Property—Lessor Companies	718,466	
Additional Depreciation—Road Property—1942 and 1943	1,499,094	
Loss Account Liquidation Trestle Realty Corporation	283,601	
Premium Account Retirement 3¼% Secured Bonds	317,895	
Loss on Sale of Property in City of New York	231,297	
Sundry Items	583,840	13,052,573
BALANCE TO CREDIT OF EARNED SURPLUS—DECEMBER 31, 1944		$276,384,153

G. METZMAN,
President

[Advertisement]

sion set up its classification of motor carriers of property (see *Railway Age* of September 18, 1937, page 373).

Reopens Navy Rate Case and Lets Army Intervene

The Interstate Commerce Commission has opened for reconsideration the No. 29015 proceeding wherein its prior report dismissed the rate complaint which the San Francisco & Napa Valley brought against its connections in accordance with provisions of an operating contract it entered with the Navy Department in 1943. The reopening order also authorizes the Secretary of War to intervene.

As noted in the *Railway Age* of December 30, 1944, page 1010, where the commission's prior report was reviewed, the proceeding involves the rates to and from Mare Island, Calif., Navy Yard, served by the S. F. & N. V., which connects at Napa Junction, Calif., with the Southern Pacific. The complaint assailed the rates to and from Mare Island insofar as they included the S. F. & N. V.'s local rate, asking that through rates to Mare Island be prescribed on the Napa Valley or Vallejo, Calif., basis, whichever was lower, and that the S. F. & N. V. be accorded divisions of such through rates.

Bills in Congress

Senator Stewart, Democrat of Tennessee, has introduced S.1019 to amend the Railroad Retirement Act so as to provide for an annuity for total and permanent disability after 10 years' service. He has also introduced S.1022 to authorize appropriations totaling $1,125,000,000 for construction in the post-war period of "greatly needed rural local roads."

Representative Cole, Republican of Missouri, has introduced H.R.3262 to amend the Interstate Commerce Act's Part II by removing the present prohibition against Interstate Commerce Commission consideration of discrimination against interstate commerce in connection with the fixing of intrastate motor rates.

Budd Sees Great Expansion in Post-war Railroad Travel

In the opinion of Edward G. Budd, president of the Edward G. Budd Manufacturing Company, estimates that post-war railroad passenger travel will be at the rate of approximately 48 billion passenger-miles annually are conservative. This would be twice the pre-war rate of travel existing in 1940 and about half the estimated travel of servicemen and civilians in 1944.

To carry such a volume of traffic, Mr. Budd pointed out, the railroads have about one-half the number of coaches they had in 1920 when they did a 47 billion passenger mile business, the highest of any pre-war year. To care properly for the post-war traveler with fast, modern, lightweight passenger cars, he estimates that new equipment will have to be delivered at the rate of at least 2,637 cars a year for the first five years after the war.

In arriving at this new equipment estimate, these conditions were given consideration: Approximately one-half of all passenger cars and combination cars are used on main-line trains. There are 10,000 of these cars. Only 1,500 cars in main-line service are modern. At least 8,500 additional modern cars will be needed to completely modernize the main-line service of the railways. Of the 6,627 sleeping cars which will remain in service after the war, 452 are more than 25 years old and an additional 207 will become 25 years of age each succeeding year.

It is further estimated, Mr. Budd said, that the postwar rate of travel will be greatly increased by the use of more attractive trains, faster schedules, and more frequent service.

Selected Income and Balance-Sheet Items of Class I Steam Railways

Compiled from 132 reports (Form IBS) representing 136 steam railways
(Switching and Terminal Companies Not Included)

Income Items	All Class I Railways — For the month of February 1945	For the month of February 1944	For the two months of 1945	For the two months of 1944
1. Net railway operating income	$73,163,460	$87,214,459	$146,178,515	$172,212,427
2. Other income	14,897,624	13,357,323	29,491,448	28,000,456
3. Total income	88,061,084	100,571,782	175,669,963	200,212,883
4. Miscellaneous deductions from income	2,688,395	2,862,404	4,631,696	5,376,108
5. Income available for fixed charges	85,372,689	97,709,378	171,038,267	194,836,775
6. Fixed charges:				
Rent for leased roads and equipment	13,147,184	11,995,486	24,593,157	24,312,253
Interest deductions[1]	32,057,701	34,476,246	64,450,099	69,115,260
Other deductions	109,940	119,440	214,380	239,942
Total fixed charges	45,314,825	46,591,172	89,257,636	93,667,455
7. Income after fixed charges	40,057,864	51,118,206	81,780,631	101,169,320
8. Contingent charges	2,679,617	2,359,760	5,355,858	4,720,429
9. Net income	37,378,247	48,758,446	76,424,773	96,448,891
10. Depreciation (Way and structures and Equipment)	27,442,138	26,314,385	54,835,717	52,919,797
11. Amortization of defense projects	19,216,631	14,441,297	38,111,418	27,519,342
12. Federal income taxes	85,623,660	98,811,681	175,910,679	192,572,760
13. Dividend appropriations:				
On common stock	16,589,338	17,819,556	18,736,838	20,179,556
On preferred stock	2,745,255	2,516,440	5,341,117	5,080,128
Ratio of income to fixed charges	1.88	2.10	1.92	2.08

Selected Assets and Liability Items	All Class I Railways — Balance at end of February 1945	Balance at end of February 1944
17. Expenditures (gross) for additions and betterments—Road	$29,250,966	.....
18. Expenditures (gross) for additions and betterments—Equipment	37,693,310	.....
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$80,327,732	$590,559,347
20. Other unadjusted debits	472,423,926	426,851,490
21. Cash	1,136,057,604	1,186,910,282
22. Temporary cash investments	1,873,842,683	1,904,600,849
23. Special deposits	211,134,741	189,082,591
24. Loans and bills receivable	383,817	210,344
25. Traffic and car-service balances—Dr.	50,861,074	48,410,932
26. Net balance receivable from agents and conductors	143,040,589	157,794,943
27. Miscellaneous accounts receivable	667,869,295	665,146,467
28. Materials and supplies	611,102,177	555,300,371
29. Interest and dividends receivable	32,719,758	23,121,582
30. Rents receivable	2,196,830	1,802,969
31. Other current assets	57,582,974	59,708,886
32. Total current assets (items 21 to 31)	4,786,791,542	4,792,090,186
40. Funded debt maturing within 6 months[2]	101,751,803	114,004,691
41. Loans and bills payable	11,185,000	14,888,834
42. Traffic and car-service balances—Cr.	212,349,891	206,719,730
43. Audited accounts and wages payable	505,228,497	589,748,672
44. Miscellaneous accounts payable	138,114,579	115,977,303
45. Interest matured unpaid	58,968,309	45,817,322
46. Dividends matured unpaid	3,985,208	7,131,455
47. Unmatured interest accrued	73,646,402	71,885,273
48. Unmatured dividends declared	32,012,066	29,070,546
49. Unmatured rents accrued	25,290,419	22,672,924
50. Accrued tax liability	1,857,034,374	1,903,145,251
51. Other current liabilities	146,130,705	166,392,346
52. Total current liabilities (items 41 to 51)	3,063,945,450	3,173,449,656
53. Analysis of accrued tax liability:		
U. S. Government taxes	1,728,523,035	1,771,493,623
Other than U. S. Government taxes	128,511,339	131,651,628
54. Other unadjusted credits	657,000,792	471,401,817

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which will become due within six months after close of month of report.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

C. P. R. President Looks for Traffic Decline in 1945

"In its main task, that of providing the nation with transportation, your company's railway facilities have handled since the commencement of the war (nearly six years ago) more than 128 billion ton-miles of freight and 11 billion passenger-miles," D. C. Coleman, Canadian Pacific chairman and president, told stockholders at a general meeting recently in Montreal. "Peak traffic loads four or five times normal volume have not been uncommon," he said, and "express, telegraph and hotel facilities, similarly, have all handled record-breaking business volumes." C. P. R. shops, in addition to servicing motive power and rolling stock, have since the war began turned out 1,420 Valentine army tanks, 75 main engines for corvettes, frigates and heavy armament landing craft, over 600 other articles of power equipment required by naval vessels, 3,000 naval guns, 1,650 naval gun mounts, more than 2,000 intricate anti-submarine devices and 120 units of gunnery range-finding and fire control equipment.

The C. P. R. chief executive does not

think it likely, however, "that the war in the Pacific together with relief and assistance for the rehabilitation of devastated countries of Europe will produce traffic comparable in volume with that which arose from the demands of the European struggle." He therefore looks for a temporary decline in all types of traffic, with the exception perhaps of agricultural and food products. On the other hand he sees as "favorable" the prospects for passenger traffic.

I. C. C. Changes Mind; Starts Wool Rate Probe Again

The Interstate Commerce Commission has reinstated its No. 28863 investigation of freight rates on wool and mohair throughout the United States, thus doing on its own motion what it refused to do a few months ago in response to petitions of the Department of Agriculture, War Food Administration, and others.

The denial of these petitions came in a February 5 order noted in the *Railway Age* of February 24, page 397. The present reinstatement order was dated May 7 and made public on May 17. The proceeding was first instituted by the commission in August, 1942, and discontinued a year later.

April Employment 0.67 Per Cent Above Previous Year

Railroad employment decreased 0.02 per cent—from 1,422,041 to 1,421,707—during the one-month period from mid-March to mid-April, and the April total was 0.67 per cent above that of April, 1944, according to the preliminary summary based on reports from Class I line haul roads and prepared by the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. The index number, based on the 1935-1939 average, was 141.6, as compared with 142.9 for the previous month and 140.6 for April, 1944.

April, 1945, employment was above that of the corresponding 1944 month in all groups except train and engine service and maintenance of equipment and stores, the decrease in each of these classifications being 0.66 per cent. In other categories the range of increases was from 1.75 per cent for yardmasters, switchtenders and hostlers to 2.72 per cent for executives, officials and staff assistants. In the comparison with the previous month, decreases were noted in two groups, 1.35 per cent in maintenance of equipment and stores and 0.34 per cent in train and engine service. In the other categories the range of increases was from 0.42 per cent for professional, clerical and general to 1.43 per cent for yardmasters, switchtenders and hostlers.

Freight Car Loading

Loadings of revenue freight for the week ended May 19 totaled 868,634 cars, the Association of American Railroads announced on May 24. This was an increase of 30,127 cars or 3.6 per cent above the preceding week, a decrease of 1,441 cars or 0.2 per cent below the corresponding week last year, and an increase of 24,792 cars or 2.9 per cent above the comparable 1943 week.

Loading of revenue freight for the week ended May 12 totaled 838,507 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, May 12 District	1945	1944	1943
Eastern	146,390	161,356	169,042
Allegheny	176,079	195,090	188,926
Pocahontas	53,870	55,571	58,271
Southern	127,496	127,519	122,344
Northwestern	128,168	131,081	122,177
Central Western	127,275	123,704	117,657
Southwestern	79,229	72,861	70,615
Total Western Districts	344,672	327,646	310,049
Total All Roads	838,507	867,182	849,032
Commodities			
Grain and grain products	49,498	40,011	43,212
Live stock	16,027	15,709	14,464
Coal	139,492	177,661	176,232
Coke	14,913	15,006	14,428
Forest products	42,926	47,207	43,691
Ore	75,083	79,552	76,885
Merchandise l.c.l.	108,474	106,622	96,484
Miscellaneous	392,094	385,414	383,636
May 12	838,507	867,182	849,032
May 5	863,399	835,538	816,538
April 28	899,221	850,441	788,789
April 21	864,063	838,737	794,163
April 14	846,391	798,683	780,908
Cumulative Total, 19 Weeks	15,146,212	15,207,419	14,630,359

In Canada.—Carloadings for the week ended May 12 totaled 58,772, as compared with 70,067 for the preceding week and 72,612 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

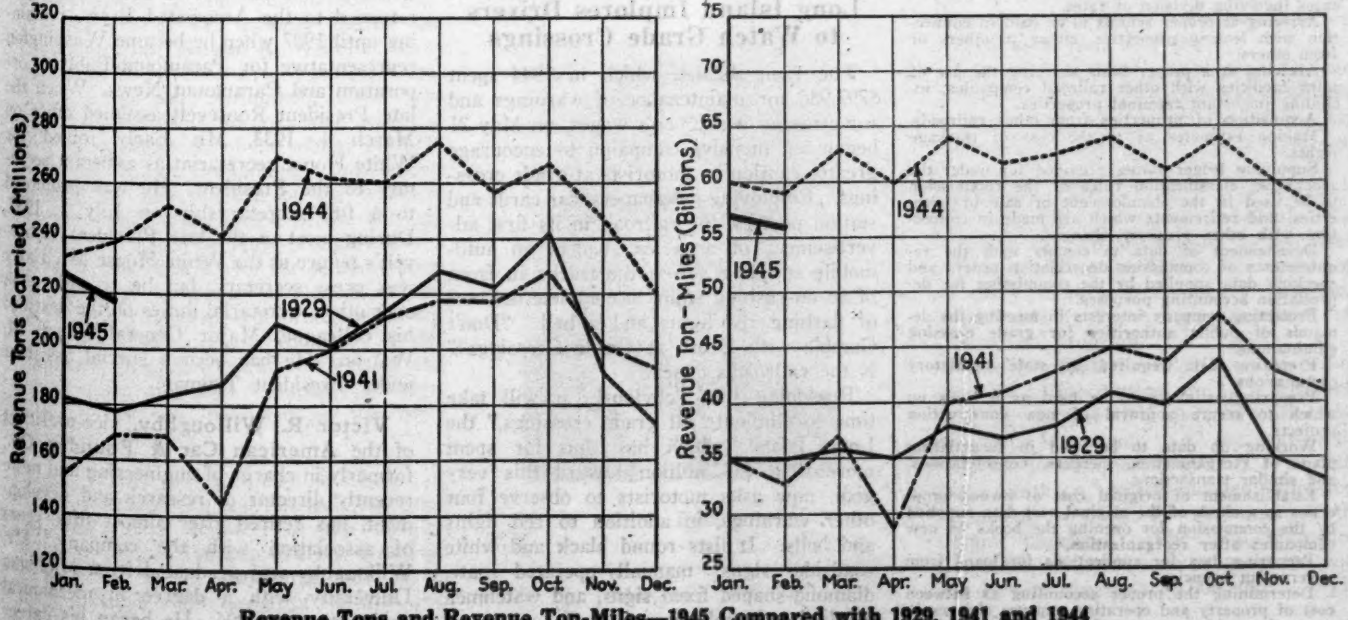
	Total Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
May 12, 1945	58,772	34,994
May 13, 1944	72,612	41,362
Cumulative Totals for Canada:		
May 12, 1945	1,252,824	706,159
May 13, 1944	1,301,447	757,148

4th Quarter Loading Estimates Miss by 3.7 Per Cent

Regional Shippers Advisory Boards overestimated carloadings for 1944's fourth quarter by 3.7 per cent over-all, according to the latest comparison of the forecasts with actual loadings, which has been issued by W. C. Kendall, chairman of the Car Service Division, Association of American Railroads. The variations by individual boards ranged from an overestimate of 15 per cent to an underestimate of 11.5 per cent, while the variations by commodities ranged from an overestimate of 20.5 per cent to an underestimate of 42.2 per cent.

The net result, showing the 3.7 per cent overestimate, compares with an overestimate of 0.2 per cent for the third quarter, and underestimates of 2 per cent and 6.1 per cent, respectively, for the first two quarters.

Comparisons for the regional boards are shown in the accompanying table. Another tabulation by commodities showed that the 42.2 per cent underestimate, noted above, was on loadings of agricultural implements and vehicles, and the 20.5 per cent overestimate was on loadings of ore (iron and N.O.S.). Other overestimates by more than 10 per cent were hay, straw and alfalfa, 17.1 per cent, and flour, meal and mill



Revenue Tons and Revenue Ton-Miles—1945 Compared with 1929, 1941 and 1944

products, 10.4 per cent. Other underestimates included: Cement, 16.8 per cent; other fresh fruits, 13.6 per cent; petroleum and petroleum products, 11.8 per cent; cotton seed and products, except oil, 11.4 per cent; and canned goods-canned food products, 10.4 per cent.

COMPARISON NATIONAL FORECAST WITH ACTUAL LOADINGS—FOURTH QUARTER 1944

Boards	Carloadings Fourth Quarter 1944 Estimated	Actual	Percent of Accuracy Over Est'd	Under Est'd
Allegheny	1,127,077	1,063,650	5.6	
Atlantic States	677,890	647,291	4.5	
Central Western	302,899	301,330	0.5	
Great Lakes	417,075	393,965	5.6	
Mid-West	921,734	880,192	4.5	
New England	98,121	95,936	2.2	
Northwest	630,429	535,753	15.0	
Ohio Valley	1,013,076	992,973	2.0	
Pacific Coast	281,474	282,632		0.4
Pacific Northwest	273,148	260,467	4.7	
Southeast	804,878	788,800	2.8	
Southwest	525,280	585,463		11.5
Trans-Mo-Kansas	360,488	336,021	6.8	
Total All Boards	7,433,569	7,158,473	3.7	

Valuation Bureau Stresses Uses of Its Reports, Now Indexed

The Bureau of Valuation of the Interstate Commerce Commission has prepared, and made available for distribution, an index covering I. C. C. valuation reports of railroad operating and lessor companies and pipe lines. This 24-page tabulation shows the name of the company, the valuation docket number, and volume and page number of the published I. C. C. reports where each valuation report may be located. No comparable index has been generally available heretofore, it is explained, and its use is expected to facilitate reference to the reports and to make their data more serviceable.

The 1000-odd railroad valuation reports included in the index, as well as others of subsidiary companies, may be used in many ways by the railroads, it was explained, as well as by the commission and various public agencies. Railroads have used the data for such purposes as:

Protecting company interests in connection with tax assessments made by various taxing bodies and the preparation of income tax returns.

Arriving at proper insurance schedules covering properties insured from year to year.

Protecting company interests in rate cases and cases involving division of rates.

Arriving at proper rentals to be paid in connection with leasing properties, either to others or from others.

Arriving at a proper basis covering the use of joint facilities with other railroad companies, including important terminal properties.

Acquisition of properties from other railroads.

Making estimates as to the cost of trackage rights.

Supplying ledger values provided for under the accounting classification rules of the commission to be used in the abandonment or sale of properties, and retirements which are made in connection with other property changes.

Development of data to comply with the requirements of commission depreciation orders and checking data supplied by the commission for depreciation accounting purposes.

Protecting company interests in meeting the demands of public authorities for grade crossing eliminations.

Preparing data required by state regulatory commissions.

Preparing estimates to be used as a basis on which to secure approval of new construction projects.

Working up data to be used in formulating plans of reorganization, mergers, consolidations, and similar transactions.

Establishment of original cost of owned properties as a check of the original cost data supplied by the commission for opening the books of new companies after reorganization.

Preparing data for applications for loans from government agencies.

Determining the proper accounting as between cost of property and operating expense charges in connection with property changes.

Establishing proper distribution of owned property as to nature, as equipment, structures, lands, tracks, etc.

W. P. B. Limitation Order on Buses Revoked

Revocation of Limitation Order L-101, restricting the production and delivery of integral buses and bus bodies, street cars, and trolley coaches, was announced last week by the War Production Board. The announcement included a statement from Director J. Monroe Johnson of the Office of Defense Transportation, who emphasized that W. P. B.'s action does not affect O. D. T. restrictions applying to the operation of integral buses.

In addition, Colonel Johnson pointed out that purchasers desiring to obtain body-on-chassis buses still will be required to file applications on Forms ODT-663, as outlined in General Order ODT-44, with O. D. T. district and field offices in order to obtain bus chassis for this type of bus. Purchasers of new integral buses, however, will no longer need to file Form ODT-LT-15 with the O. D. T. Allocations Section at Washington.

Reopens Case Involving Rates on Salt from Kansas

The Interstate Commerce Commission has reopened for oral argument the No. 28716 proceeding and related cases wherein Division 2's prior report undertook to put some order into motor carrier rates and practices covering the transportation of salt and salt mixtures from Hutchinson, Kans., Kanapolis, and Lyons to points in Kansas, Arkansas, Oklahoma, Missouri, Iowa, Nebraska, Wyoming, Colorado, and New Mexico.

As noted in the *Railway Age* of December 30, 1944, page 1007, the complainant, Morton Salt Company, is a producer who "prefers to ship by rail," but "has been obliged because of competition to make extensive use of motor carriers." The reopening came after consideration of Morton's petition, which was adopted by the railroads involved.

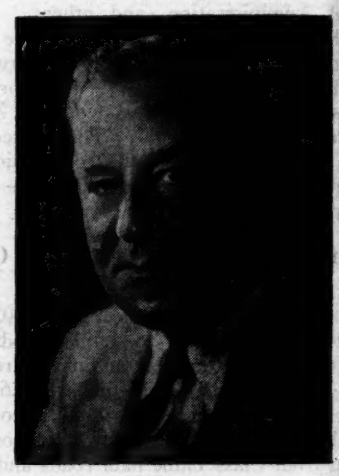
Long Island Implores Drivers to Watch Grade Crossings

The Long Island, which in 1944 spent $797,936 for maintenance of warnings and for crossing watchmen's wages, on May 21 began an intensive campaign to encourage greater caution by motorists at grade crossings. Employing newspapers, car cards and station posters, the railroad in its first advertisement of a series, depicts an automobile speeding across the tracks in front of an on-rushing train, in complete defiance of flashing red lights and a bell. "Don't Gamble with Death at Grade Crossings!" is the railroad's appeal.

Reasoning that "obviously it will take time to eliminate all grade crossings," the Long Island, which has thus far spent more than $37 million toward this very goal, now asks motorists to observe four other warnings, in addition to red lights and bells. It lists round black and white roadside signs, manually-operated gate, diamond-shaped fixed signs, and watchmen displaying "stop" discs.

Supply Trade

Stephen T. Early, a member of the White House secretariat since 1933, will become a vice-president of **Pullman, Inc.,** on June 1 with headquarters in Washington, D. C. This was announced last week by David A. Crawford, president of Pullman, Inc., who said that Mr. Early's duties will relate to the corporate functions of Pullman and certain of its subsidiaries, including sales of the products of the subsidiaries. Mr. Early was born in Crozet, Va., August 27, 1889, and was educated in private schools in that state and in high school at Washington, D. C. He joined the Washington staff of the United Press as a reporter in 1908, remaining in that position until 1913 when he transferred to the Associated Press. During World War I Mr. Early was in the Army as a captain in the infantry, and in 1920 he served on the campaign staff of the late President Franklin D. Roosevelt, who made his unsuccessful run for the vice-presidency in that year. For a brief period during 1920-21 Mr. Early was publicity director for the Chamber of Commerce of the United States. He then returned to the Associated Press, remaining until 1927 when he became Washington representative for Paramount-Publix Corporation and Paramount News. When the late President Roosevelt assumed office on March 4, 1933, Mr. Early joined the White House secretariat as assistant secretary to the President. He was promoted to a full secretaryship on July 1, 1937. During most of the late President Roosevelt's tenure at the White House Mr. Early was press secretary, but he recently took over other secretarial duties on the death of his colleague, Major General Edwin M. Watson. He has been a special assistant under President Truman.



Stephen T. Early

Victor R. Willoughby, vice-president of the **American Car & Foundry Co.,** formerly in charge of engineering and more recently director of research and development, has retired after almost fifty years of association with the company. Mr. Willoughby was graduated from Michigan University with a degree in mechanical engineering in 1896. He began his career

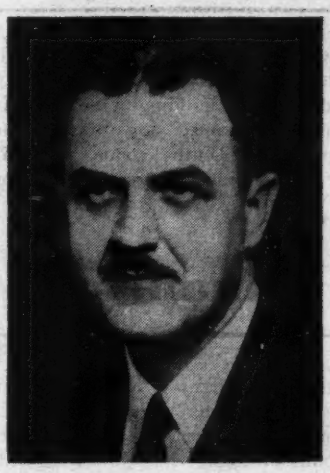
with the Michigan Peninsular Car Company. When that company was taken over by the American Car & Foundry Co. at the time of its incorporation in 1899, he was appointed assistant mechanical engineer. He served as engineer at various plants of the company and later in New York, where he subsequently was appointed general mechanical engineer until his election as vice-president in charge of engineering in February, 1938. Since December, 1943, he has headed the company's department of research and development as its director. During the war, he served as

Victor R. Willoughby

assistant chairman and chief civilian officer of the integration committee on the light tank.

Oliver E. Mount, vice-president, secretary and treasurer of the American Steel Foundries, Chicago, and retiring president of the **Steel Founders' Society of America,** was honored at the society's annual meeting at Chicago on May 18 for his outstanding record during the past three years. **Claude L. Harrell,** vice-president of the Sterling Steel Casting Company, East St. Louis, Ill., and chairman of the steel castings industry advisory committee to the Office of Price Administration, was presented the Frederick A. Lorenz Memorial Medal for 1944 for the most outstanding contribution to the general welfare of the industry during the preceding year. **Edwin A. Walcher,** vice-president of the Ohio Steel Foundry Company, Lima and Springfield, Ohio, was presented with the newly-created technical and operating medal of the society for 1944 for the most outstanding contribution toward the advancement of the technical and operating development of the industry during the preceding year. The award was made to Mr. Walcher for the demonstration of foundry technique employed in the development of cast steel breech rings for field, naval and aircraft ordnance. **A. M. Andorn,** executive vice-president of the Penn Steel Castings Company, Chester, Pa., is the new president of the Steel Founders' Society.

O. J. Horger, formerly in charge of railway engineering and research, has been appointed chief engineer of the railway division of the **Timken Roller Bearing Company. C. L. Eastburg,** who is in active charge of the design of bearings and parts as applied to locomotives, has been appointed assistant chief engineer of the



O. J. Horger

railway division and **P. C. Paterson,** who has been active in the inspection and procurement of material and in equipment

P. C. Paterson

applications, has been appointed service manager of the railway division.

Mr. Horger was graduated with a Bache-

C. L. Eastburg

lor of Science degree from Carnegie Institute of Technology and a Doctor of Science degree from Michigan University. While at Michigan University he instituted and was in charge of the fatigue testing of locomotive and car axles, a part of a program of general research. He joined the Timken Company in 1924. He is the author of many technical articles and is a member of the American Society of Mechanical Engineering, the American Society for Metals, the American Society for Testing Materials, the Society for Experimental and Stress Analysis and the British Locomotive Institute. Mr. Eastburg attended Illinois University and joined the Timken Company in 1927. Mr. Paterson attended the Carnegie Institute of Technology. He is a member of the American Society for Metals.

John E. Mahoney, assistant general sales manager of the **P. & M. Co.,** Chicago, has been promoted to general sales manager, with headquarters at Chicago. Mr. Mahoney was born on November 23, 1893, and in June, 1910, he entered railway service in the maintenance of way department of the Illinois Central. Two years later he went with the P. & M. Co. as a material inspector and in 1914 he was assigned to the sales department. In 1937 Mr. Mahoney was promoted to Chicago district sales agent, and in 1943 he was advanced to the position he held at the time of his new appointment.

Equipment and Supplies

Third Quarter Allocations

Indications of "some future improvement in the transportation equipment situation" are seen by the Office of Defense Transportation as a result of the War Production Board's allotment to it of increased quantities of controlled materials for this year's third quarter. Among other things, the O.D.T. statement called attention to the fact that construction of new passenger cars is now authorized for the first time since 1942 although they will not be in production until early in 1946.

The allocation for passenger-train cars is 5,000 tons of carbon steel and 5,500 tons of alloy steel. According to O.D.T., this will produce "250 coaches, head-end cars and non-luxury type diners, and starts a program of 250 passenger cars quarterly beginning the first quarter of 1946." The program, the statement adds, "is the result of pressure from the O.D.T. for equipment to carry next winter's heavy passenger load caused by the Army's announced 'redeployment' program."

Total third-quarter allocations of carbon steel for transportation are 1,339,588 short tons, the largest 1945 quarterly allocation thus far. It amounts to 87 per cent of the 1,532,136 tons requested by O.D.T. as compared with a second-quarter allotment amounting to only 70 per cent of the amount requested. The total alloy-steel allocation is 128,840 tons as compared with the second quarter's 98,000 tons. "The

necessary amounts of copper and aluminum were allotted to accord with the steel allotments," O.D.T. said.

The rail allocation for steam railroads amounts to 495,900 tons, as compared with 417,000 tons in the second quarter. The allotment for track accessories is 244,500 tons. For locomotives, the 41,500 tons requested were allocated. This compares with a second-quarter allocation of 30,000 tons. The previously-reported freight-car allotment of 220,000 tons is 7,000 tons less than the amount requested; but it is expected to cover present schedules of about 11,000 cars to be built in the fourth quarter.

Allotments for highway transport were calculated to meet requirements on programs currently authorized by W.P.B., the O.D.T. statement said. "Steel for integral buses," it added, "actually exceeds the stated program of 8,300 tons by 4,700 tons to permit the production of 1,100 additional units in 1945, making the entire year's production approximately 10,000." The allotment for trucks is 76,600 tons which is expected to bring the year's production to 186,000 units. Water transport gets 28,000 tons, and petroleum and liquid transport, 438 tons for tank trailers.

SIGNALING

THE CHICAGO & NORTH WESTERN has ordered equipment from the General Railway Signal Company for the remote control of a crossover and single switch at Maple River Junction, Iowa. The control machine will be at Carrol, 4 miles away. It will have a 12-in. by 17-in. panel equipped with an illuminated track diagram with 9 indication lights; 2 switch levers and 2 signal levers will control 3 switch machines and 5 signals.

THE INTERNATIONAL GREAT NORTHERN has ordered from the General Railway Signal Company materials for an automatic interlocking to control 8 signals at a crossing with the Texas & New Orleans at Marlin, Tex. An automatic time release feature will permit switching moves to be made on an approach without causing the route to lock up.

THE UNION RAILROAD has placed an order with the Union Switch & Signal Co. for the installation of the signaling required for alterations and additions to the electro-pneumatic interlocking at "MO" Tower, East Pittsburgh, Pa. The changes are necessitated because of the rearrangement of tracks to provide a new lead to the yard which serves the Edgar Thomson Works of the Carnegie-Illinois Steel Company, new interchanges with the Pennsylvania and the Baltimore & Ohio, with extension and realinement of double track on the high grade line. New material required includes an extensive change in the existing 43-lever Model 14 interlocking machine, Style T-10 track model, A-5 electro-pneumatic switch layouts and accessory materials.

FREIGHT CARS

THE DETROIT, TOLEDO & IRONTON is inquiring for 100 hopper cars of 70 tons' capacity.

Construction

NEW YORK CENTRAL.—This railroad has awarded a contract for the construction of a car department building at Selkirk, N. Y., and for work required for alterations to its building at 44 Tenth avenue, New York, to the Duffy Construction Corporation of New York.

Financial

ALTON.—*Promissory Notes.*—This road has asked the Interstate Commerce Commission for authority to issue $1,946,677 of promissory notes in connection with its purchase under a conditional sale agreement of 600 box cars, at a cost of $3338 each, and 150 hopper cars, at a cost of $2869 each, from the American Car & Foundry Company.

ATLANTIC COAST LINE.—*Annual Report.*—During 1944, the Atlantic Coast Line purchased, redeemed or provided for the payment of outstanding bonds, certificates of indebtedness and other obligations amounting to $18,247,119, representing a reduction of $654,199 annually in charges for interest on debt. Total long-term debt as of December 31, 1944, amounted to $104,727,700, as compared with $146,505,930 at December 31, 1938.

Revenue from freight service in 1944 was less than in 1943, due largely to completion of government construction and, with lessening of the submarine menace, to the reverting of certain import traffic to ports through which it formerly had been handled. Revenues from passenger, mail and express services increased with continuing war conditions and related circumstances, as did incidental revenues. There were decreases in baggage revenues and "all other" transportation revenues. The net result was an increase in gross revenues from all sources to a new record level. A condensed income statement follows:

	1944	Increase or Decrease Compared With 1943
Operating Revenues	$155,946,298	+$2,345,283
Operating Expenses	93,834,279	+12,051,647
Net Operating Revenues	$62,112,019	−$9,706,364
Railway Tax Accruals	44,000,000	−7,250,000
Total Operating Income	$18,112,019	−$2,456,364
Equipment and Joint Facility Rents—Net Debit	4,439,562	−423,964
Net Railway Operating Income	$13,672,457	−$2,032,400
Other Income	8,338,259	+256,821
Total Income	$22,010,716	−$1,775,579
Miscellaneous Deductions from Income	402,038	+2,673
Income Available for Fixed Charges	$21,608,678	−$1,778,252
Fixed Charges—Interest and Rentals	5,501,977	−398,590
Income after Fixed Charges	$16,106,701	−$1,379,662
Contingent Charges	5,308	−96
Net Income	$16,101,393	−$1,379,566

BOSTON & MAINE.—*Promissory Notes.*—This company has applied to the Interstate Commerce Commission for authority to issue $563,914 of promissory notes in connection with the acquisition under a lease and purchase agreement of one 4,000-hp. Diesel-electric passenger locomotive from the Electro-Motive Division of General Motors Corporation at a cost of $353,014 and the acquisition under a conditional sale agreement of three 1,000-hp. Diesel-electric switching locomotives from the American Locomotive Company at a cost of $78,500 each.

BALTIMORE & OHIO.—*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to assume liability for $4,680,000 of series O equipment trust certificates in connection with the acquisition, at a total cost of about $5,860,018, of the following equipment: five 2-8-8-4 type steam locomotives to be built by the Baldwin Locomotive Works at $272,553 each; seven 4,000-hp. Diesel-electric passenger locomotives to be built by the Electro-Motive Division of General Motors Corporation at $351,581 each; and 500 50-ton box cars to be built by the Greenville Steel Car Company at $4,072 each.

BALTIMORE & OHIO.—*Detroit-Toledo Trackage Rights.*—The Interstate Commerce Commission has received briefs from parties interested in this company's application for authority to operate passenger, mail and express trains under trackage rights over the New York Central's line from Toledo, Ohio, to Detroit, Mich., in lieu of the present joint arrangement under which its trains between these points have operated over the Pere Marquette with the latter road's power and crews. (Previous item in *Railway Age* of April 28, page 776.) The principal question in dispute, according to the applicant, is whether Pere Marquette employees are affected by the proposed change, within the meaning of section 5(2) of the Interstate Commerce Act, "so as to make mandatory the imposition of terms and conditions for the protection of such employees," and, if so, whether such conditions should be imposed on the Baltimore & Ohio. The Railway Labor Executives Association, the Brotherhood of Locomotive Engineers and the Brotherhood of Railroad Trainmen, as well as the Pere Marquette, have asked the commission, in effect, if the application is granted, to require the B. & O., if necessary, to provide for the protection of some 100 P. M. employees who, it is asserted, may be adversely affected. The B. & O. has taken the position that its agreement with the P. M. can be legally terminated without the commission's approval, as can its passenger service between the two points. It has no right to operate over the Pere Marquette line, it contends, and the protection of that road's employees is not the B. & O.'s responsibility, but that of the employer.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Distribution to Bondholders Authorized.*—Federal Judge Michael L. Igoe, Chicago, has authorized the distribution of $52,038,036 to bondholders of the Chicago, Milwaukee, St. Paul & Pacific, and

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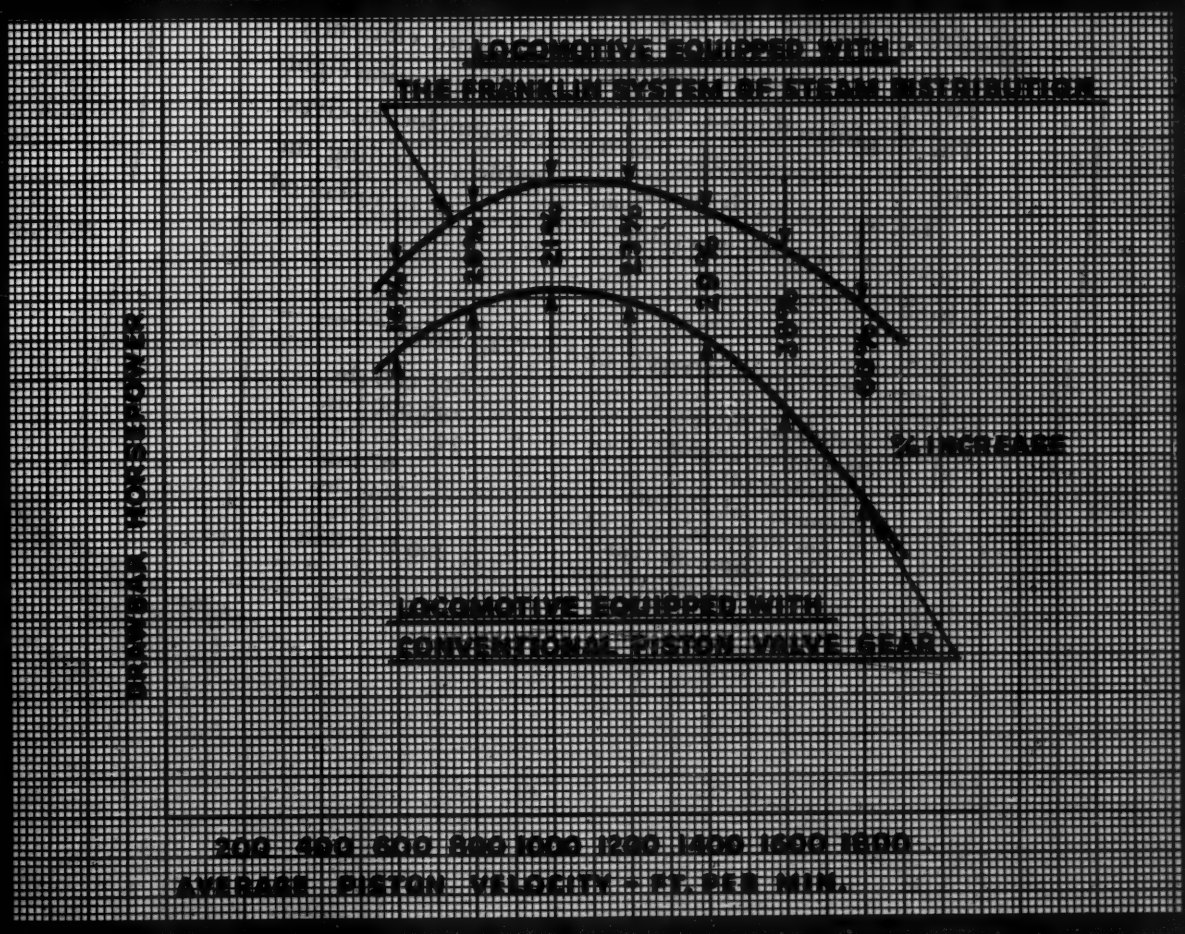
Increase in Drawbar Horsepower

obtained with
typical application of

THE FRANKLIN SYSTEM of STEAM DISTRIBUTION


LOCOMOTIVE EQUIPPED WITH
THE FRANKLIN SYSTEM OF STEAM DISTRIBUTION
% INCREASE
LOCOMOTIVE EQUIPPED WITH
CONVENTIONAL PISTON VALVE GEAR
DRAWBAR HORSEPOWER
200 400 600 800 1000 1200 1400 1600 1800
AVERAGE PISTON VELOCITY - FT. PER MIN.

Both curves are established on the basis of the same amount of steam to the cylinders. The Franklin System assures a substantial increase in horsepower output and economy, for either passenger or high speed freight service.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.
NEW YORK • CHICAGO
In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

The Virginian Railway

PLACES IN SERVICE A FLEET OF EIGHT

Lima-built 2-6-6-6s

To handle its heavy coal traffic still more efficiently, The Virginian Railway has just put into operation eight four-cylinder, six-coupled articulated steam locomotives.

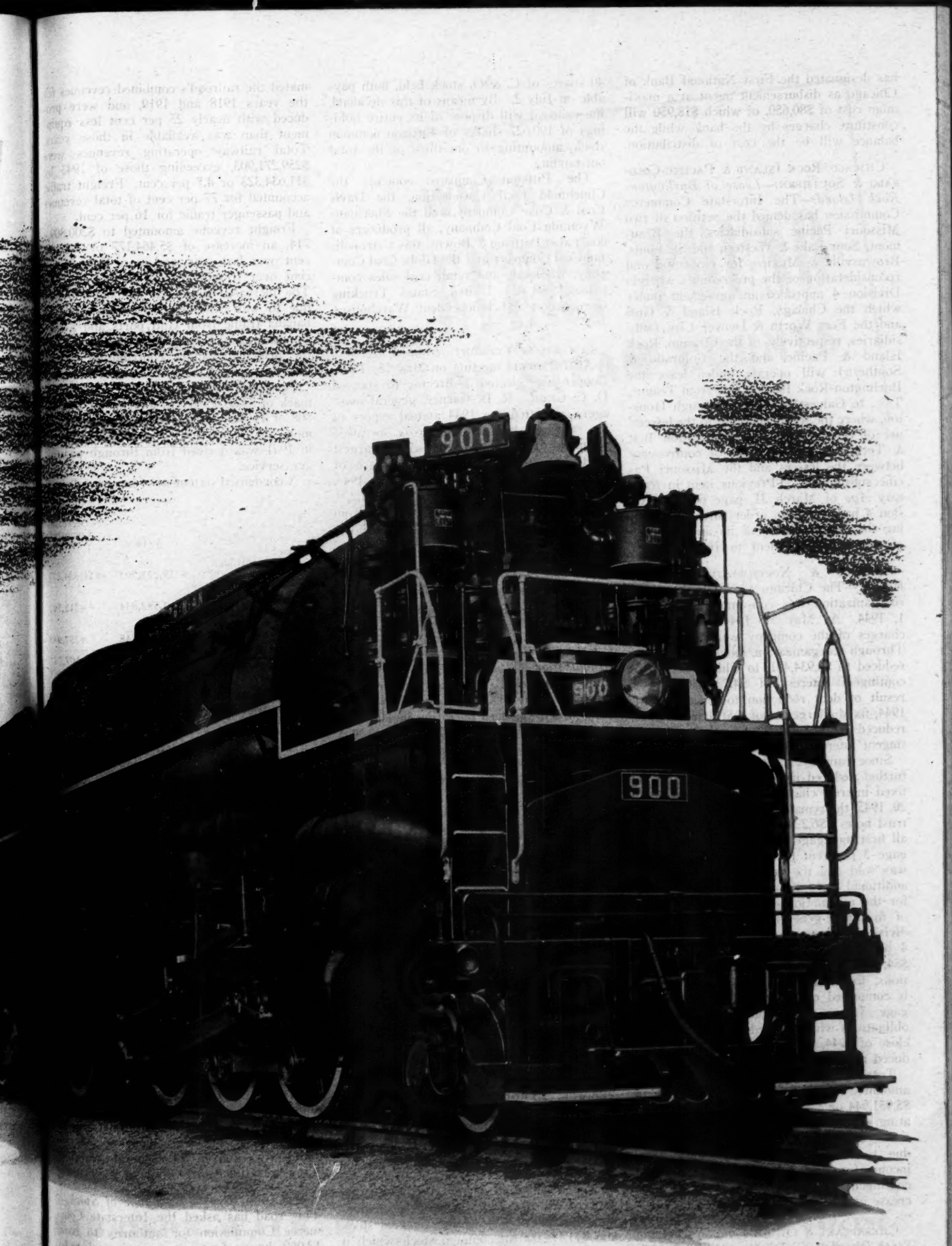
These Lima-built giants are capable of hauling the heaviest freights, over mountain grades, at sustained high speeds.

LOCOMOTIVE CHARACTERISTICS

Weight on Drivers	495,000 Lbs.
Weight of Engine	753,000 Lbs.
Cylinders (4)	22½x33 Ins.
Diameter of Drivers	67 Ins.
Boiler Pressure	260 Lbs.
Tender Capacity (Fuel)	25 Tons
Tender Capacity (Water)	26,500 U.S. Gals.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS, INCORPORATED, LIMA, OHIO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has designated the First National Bank of Chicago as disbursement agent at a maximum cost of $80,650, of which $18,950 will constitute charges by the bank while the balance will be the cost of distribution.

CHICAGO, ROCK ISLAND & PACIFIC-COLORADO & SOUTHERN.—*Lease of Burlington-Rock Island.*—The Interstate Commerce Commission has denied the petition of two Missouri Pacific subsidiaries, the Beaumont, Sour Lake & Western and St. Louis, Brownsville & Mexico, for reopening and reconsideration of the proceedings wherein Division 4 approved an agreement under which the Chicago, Rock Island & Gulf and the Fort Worth & Denver City (subsidiaries, respectively, of the Chicago, Rock Island & Pacific and the Colorado & Southern) will operate under lease the Burlington-Rock Island's line from Teague, Tex., to Galveston, passing through Houston, where the terms applying to the lessees' use of certain lines of the Houston Belt & Terminal are a subject of controversy between the lessees and the Missouri Pacific subsidiaries. (Previous item in *Railway Age* of March 31, page 608.) Division 4 has issued an order further extending the effective date of its authorization of the lease agreement to June 1.

CHICAGO & NORTHWESTERN.—*Annual Report.*—The Chicago & North Western's reorganization was consummated on June 1, 1944. At May 31, 1944, annual fixed charges of the company were $16,140,592. Through reorganization, fixed charges were reduced to $3,934,431, to which was added contingent interest of $4,727,650. As a result of debt reduction to December 31, 1944, fixed charges as of that date had been reduced to $2,846,669 annually, and contingent interest to $4,034,370.

Since January 1, 1945, the company has further reduced its fixed interest debt and fixed interest charges, by paying on April 20, 1945, the remaining balance of collateral trust notes ($6,224,000) and by refinancing all first mortgage debt. A new first mortgage 3 per cent bond issue of $54,000,000 was sold and the proceeds, together with additional cash, deposited with the trustees for the redemption on December 31, 1944, of first and general mortgage bonds and divisional mortgage bonds—all carrving a 4 per cent interest rate and aggregating $54,478,442. As a result of these transactions, fixed interest debt of the company is comprised of $54,000,000 of first mortgage 3 per cent bonds, and equipment obligations which totaled $21,485,857 at the close of 1944, while fixed interest was reduced approximately $808,000 annually.

Total operating revenues in 1944 amounted to $166,966,117, an increase of $5,951,944 or 3.7 per cent over 1943. Operating expenses totaled $117,930,666, an increase of $7,925,800 or 7.2 per cent, chiefly due to increased wage payments. Net income for 1944, after fixed charges and contingent interest, was $16,108,061, a decrease of $6,857,389 or 29.9 per cent.

CHESAPEAKE & OHIO.—*Pittston Common Stock Distributed.*—On May 23, the C. & O. declared the regular 75 cents cash dividend and a special dividend payable in common stock of the Pittston Company at the rate of one share of Pittston common for each 40 shares of C. & O. stock held, both payable on July 2. By means of this dividend, the railroad will dispose of its entire holdings of 190,627 shares of Pittston common stock, amounting to one-third of the total outstanding.

The Pittston Company controls the Clinchfield Coal Corporation, the Davis Coal & Coke Company, and the Sheridan-Wyoming Coal Company, all producers of coal; also Pattison & Bowns, the Metropolitan Coal Company and the Globe Coal Company, wholesale and retail coal sales companies, and the United States Trucking Corporation and Independent Warehouses, Inc.

CENTRAL OF VERMONT.—*Annual Meeting.*—At the annual meeting on May 15, T. H. Cooper was elected a director to succeed D. C. Grant. R. D. Garner, general manager, submitted the 1944 annual report of the railway which showed gross operating revenues of $9,117,854, the second largest in the company's history, a decrease of $441,532 from the record year of 1943. Operating expenses amounted to $7,171,229, an increase of $177,486. Net revenue from railway operation of $1,946,625 was $619,018 under 1943. After provision for taxes, fixed charges and other expenses, net income was $737,069 less than the previous year, due principally to national wage awards which increased the payroll expense by $669,924.

CHICAGO, ROCK ISLAND & PACIFIC.—*Reorganization Plan Approved.*—Federal Judge Michael L. Igoe has approved an amended plan of reorganization for this road which has been operating under bankruptcy trustees for the last 12 years. The effective date of the reorganization plan is January 1, 1944, as provided by the I. C. C. Under the plan the capitalization of the road is scaled down from $452,259,000 to $356,117,000 a decrease of 12 million dollars from the figures set in a previous reorganization plan. In addition to the new securities to be issued, the plan provides for a cash distribution of $38,290,742 to various creditors.

CHICAGO, ROCK ISLAND & PACIFIC.—*Will Pay Debt Owed to R. F. C.*—Trustees of this road will pay in full $18,777,000 in debt and accrued interest owed to the Reconstruction Finance Corporation. The last legal obstacle to payment was removed when attorneys for general mortgage bondholders withdrew an appeal from an earlier order of Federal Judge Igoe authorizing the step.

This payment will extinguish in full the following securities which the R. F. C. was to receive under the terms of the reorganization formerly approved: 2½ million dollar 10 year note; $4,070,000 of first mortgage bonds and $5,993,000 of income bonds. This means an 11 per cent cut in mortgage debt and a substantial reduction in fixed charges. The R. F. C. also gives up $4,462,000 of 5 per cent preferred stock and $11,114,000 of common stock which it was to receive.

ILLINOIS CENTRAL.—*Annual Report.*—Revenues from operations in 1944, more than a quarter of a million dollars, approximated the railroad's combined revenues for the years 1918 and 1919, and were produced with nearly 25 per cent less equipment than was available in those years. Total railway operating revenues were $259,271,903, exceeding those of 1943 by $11,634,323 or 4.7 per cent. Freight traffic accounted for 77 per cent of total revenues and passenger traffic for 16 per cent.

Freight revenue amounted to $200,809,714, an increase of $5,464,177 or 2.8 per cent over last year, and more than 66 per cent over freight revenue earned in 1941. The increased industrial demand for coal due to war conditions, the resumption of banana traffic from Gulf ports and a substantial increase in rail-lake movement were the principal factors contributing to the increase.

Passenger revenue reached a new high mark of $42,625,897, an increase of $4,252,808 or 11 per cent over last year. In 1944, more than four times as much revenue as in 1941 was derived from through passenger service.

A condensed statement of income follows:

	1944	Increase or Decrease Compared With 1943
Income:		
Revenues from operations	$259,271,903	+$11,634,323
Rentals from others for use of properties and equipment	3,582,834	+215,501
Income from investments and other misc. items	741,348	+257,942
Total Income	$263,596,085	+$12,107,767
Expenses:		
Operating and Maintaining property	$152,596,774	+$6,966,662
Depreciation and amortization	14,475,185	+315,007
Rentals for use of other co.'s properties and equipment	8,161,641	−1,403,186
Taxes	58,826,409	+15,281,641
Other misc. expenses	322,959	+66,939
Total Expenses	$246,210,469	+$19,851,273
Net Income for Other Purposes	$17,385,616	−$7,743,506
Int. on funded debt	11,827,501	−1,375,890

KANSAS, OKLAHOMA & GULF.—*Refinancing.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue $4,400,000 of 3⅝ per cent first mortgage bonds, maturing in 1980, sold at 99.059 to Halsey, Stuart & Company and others. The proceeds, with other funds, are to be employed in the redemption at 104 of $4,450,000 of 5 per cent first mortgage bonds due in 1978. The transaction is expected to effect a $3,213,963 net reduction in interest charges.

MINNEAPOLIS & ST. LOUIS.—*Promissory Note.*—This company has applied to the Interstate Commerce Commission for authority to issue a $1,439,220 promissory note in connection with its purchase under a conditional sale agreement of 500 50-ton box cars from the General American Transportation Corporation at $3598 each.

MCCLOUD RIVER.—*Exchange of Stock.*—This road has asked the Interstate Commerce Commission for authority to issue 12,000 shares of no-par common stock to be exchanged for 12,000 shares of common stock of $100 par value now outstanding.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—*Annual Report.*—Freight earnings in

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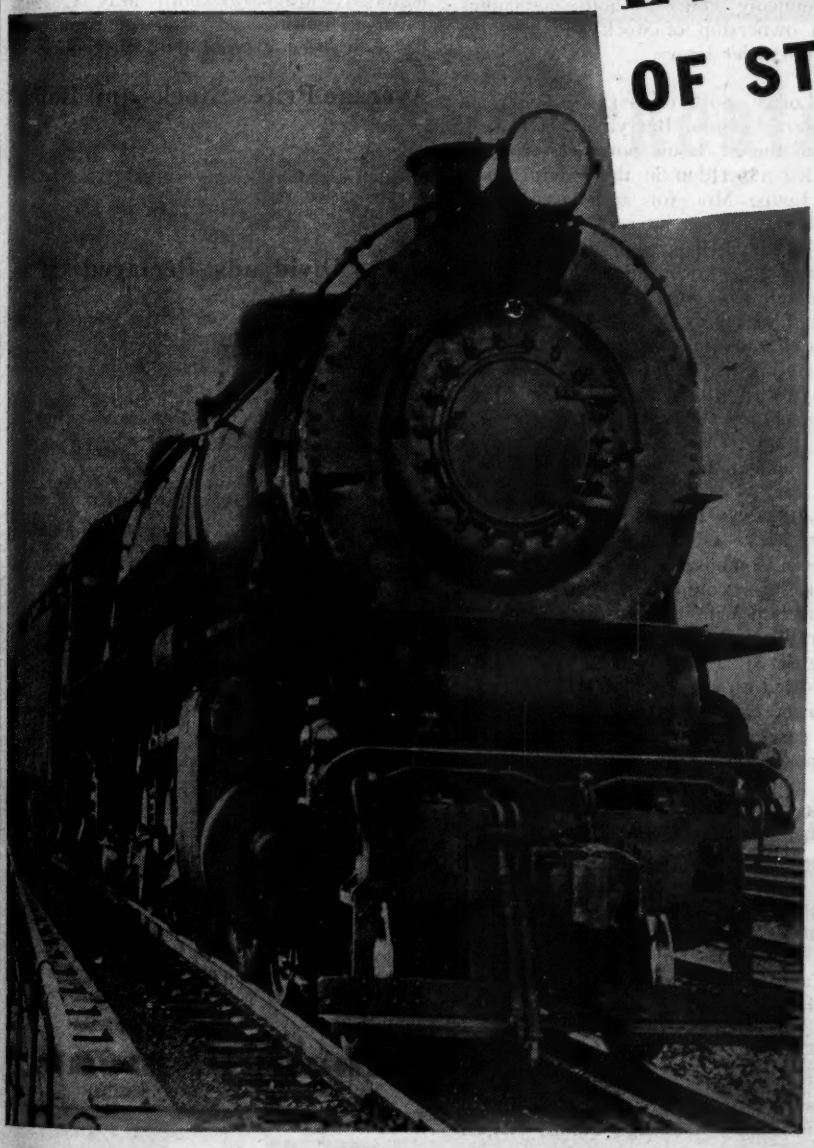
WHEN EVERY POUND OF STEAM COUNTS

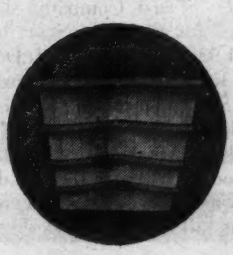


● When you are making every effort to secure maximum efficiency from your steam locomotives, remember the importance of maintaining a *complete* brick arch in the firebox.

For 35 years Security Sectional Arches have been saving fuel on all types of locomotives, and the harder a locomotive is worked the greater the proportionate fuel saving.

The cost of maintaining a complete arch is but a fraction of that of the coal conserved.

HARBISON-WALKER REFRACTORIES CO.
Refractories Specialists



AMERICAN ARCH CO. INC.
60 East 42nd Street, New York 17, N. Y.
Locomotive Combustion Specialists

1944 reached an all-time high of $31,737,722, exceeding those of 1943, the previous peak, by $1,157,315, while total revenue tons handled decreased 3.35 per cent and carloadings for all commodities decreased 3.61 per cent. Passenger earnings were $7,635,396 or $1,164,993 less than in 1943, due largely to curtailment of organized military movements and furlough travel. A condensed summary of financial and statistical tables in the annual report follow:

	1944	1943
Operating Revenues	$42,609,753	$42,284,020
Operating Expenses	32,266,928	26,459,060
Net Revenue from Operations	10,342,825	15,824,960
New Railway Operating Income after deducting Taxes, Equipment Rents, etc.)	3,698,204	5,083,496
Net Income (after Other Income and Fixed Charges)	2,342,433	3,696,227
Ratio of Expenses to Revenues	75.73	62.57
Ratio of Maintenance of Way to Revenues	17.83	12.05
Ratio of Maintenance of Equipment to Revenues	21.51	16.45
Ratio of Transportation to Revenues	31.06	28.74

NEW YORK, CHICAGO & ST. LOUIS.—*Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority to assume liability for $1,400,000 of equipment trust certificates in connection with the purchase of 5 baggage cars from the American Car & Foundry Co. at a total cost of $152,060 and 500 50-ton box cars from the Ralston Steel Car Company at a total cost of $1,705,240.

NEW YORK, NEW HAVEN & HARTFORD.—*I. C. C. Reapproves Reorganization Plan.*—Upon further consideration of the plan of reorganization of this company under section 77 of the Bankruptcy Act, as submitted by the Interstate Commerce Commission and returned to it by the federal court for further action with respect only to certain provisions for acquisition of the Old Colony, the commission has issued its sixth supplemental report in the proceedings, reapproving the price to be paid for the Old Colony under the plan, in the new company's securities. The commission was of the opinion that it was required only to give adequate consideration of the value and price of the Old Colony, uninfluenced by the pressure of an agreement reached between the parties, and that no further hearing was required. Upon such consideration, it reapproved the price previously set. The petitions of the Pennsylvania (noted in *Railway Age* of April 7, page 646) and the Old Colony bondholders' committee for further hearing were denied.

PENNSYLVANIA.—*Refinancing.*—Division 4 of the Interstate Commerce Commission has authorized this company to issue $57,130,000 of series G 3 per cent general mortgage bonds, to mature in 1985, to be disposed of as follows: $52,981,000 have been sold at par to the Equitable Life Assurance Society; $2,092,000 are to be issued to various subsidiaries of the company and its employees' relief fund in exchange for series C general mortgage bonds in the same amount; and $2,057,000 are to be held in certain treasury funds in lieu of an equal principal amount of the series C bonds now held. The proceeds of the sale of the portion of the issue sold are to be applied, with other funds, to the redemption at 104 of $57,730,000 of series C 3¾ per cent general mortgage bonds now outstanding. The transaction is expected to result in a net saving of $9,276,562, in addition to the benefits of an income tax reduction of about $2,800,000.

SOUTHERN PACIFIC.—*Central Pacific to Purchase Nevada-California-Oregon.*—The Central Pacific has asked the Interstate Commerce Commission to authorize its purchase of the railroad property of the Nevada-California-Oregon. The Southern Pacific Company controls both companies through ownership of stock and operates their lines under leases.

ST. LOUIS SOUTHWESTERN.—*Seeks to Pay Interest Due.*—Berryman Henwood, trustee of the St. Louis Southwestern, last week filed a petition in the federal court at St. Louis, Mo., for authority to pay two installments of interest due January 1 and July 1, 1945, on the four per cent second mortgage income bond certificates; three installments due July 1, 1944, and January 1 and July 1, 1945, on first terminal and unifying mortgage bonds; and four installments of interest due January 1 and July 1, 1939, and January 1 and July 1, 1940, on the general and refunding bonds. June 15 has been set for hearing on the application.

ST. LOUIS-SAN FRANCISCO.—*Reorganization Expenses.*—Division 4 of the Interstate Commerce Commission has fixed maximum allowances for compensation and expenses in connection with this road's reorganization for the period from February 1, 1941, to August 31, 1944. A total of $404,219 was allowed on specific claims of $506,167. The larger claims, and the amounts fixed in each case, were as follows: E. N. Brown, chairman of the debtor's board of directors, $12,900 and $11,000; prior lien bondholders' committee, $19,594 and $19,594; Hunton, Williams, Anderson, Gay & Moore, counsel for the prior lien bondholders' committee, $42,800 and $35,000; Central Hanover Bank & Trust Company, as depositary for prior lien bonds, $58,468 and $45,000, and as trustee under the prior lien mortgage, $9,725 and $9,725; consolidated mortgage bondholders' committee, $12,625 and $12,625; Cravath, Swain & Moore, counsel for the consolidated mortgage bondholders' committee, $71,160 and $41,160; the Chase National Bank of New York, as depositary for consolidated mortgage bonds, $64,423 and $48,627, and as trustee under the consolidated mortgage, $5,189 and $5,189; the Fort Scott bondholders' committee, $11,338 and $11,338; Davis Polk Wardwell Sunderland & Kiendl, counsel for the Fort Scott bondholders' committee, $46,500 and $25,000; Bankers Trust Company, depositary and trustee for the Fort Scott bonds, $12,325 and $11,325; Thomas F. McDonald, counsel for the Railroad Credit Corporation, $21,445 and $15,445; Karelsen, Karelsen & Rubin, counsel for certain holders of Birmingham bonds, $30,360 and $12,360; and William V. Hodges, counsel for the debtor company, who asked a "reasonable allowance" and was allowed $25,000.

VIRGINIAN.—*Joint Operation.*—This road has asked the Interstate Commerce Commission to authorize joint use by it of the 5-mile Mill Creek branch of the Glen Jean division of the Chesapeake & Ohio, which that road proposes to construct.

WESTERN PACIFIC. — *Reorganization Ends.*—The last step in the reorganization of the Western Pacific was taken last week when Federal Judge A. F. St. Sure of the United States district court at San Francisco, Cal., formally discharged the trustees of the road. The trustees relinquished actual control and operation on December 31 of last year but were left nominally in charge until May 1, 1945. Final accounting and discharge from bond has now been cleared with the court.

Average Prices Stocks and Bonds

	May 22	Last Week	Last Year
Average price of 20 representative railway stocks	53.87	53.87	40.43
Average price of 20 representative railway bonds	98.76	99.11	88.53

Dividends Declared

Alabama Great Southern.—Ordinary; 6% participating preferred, both $4.50, both payable June 28 to holders of record May 28.

Atlanta, Birmingham & Coast.—Preferred, $2.50, semi-annually, payable July 1, to holders of record June 12.

Catawissa.—5% 1st issue preferred; 5% 2nd issue preferred, both 75¢, both payable May 25 to holders of record May 7.

Chestnut Hill.—75¢, quarterly, payable June 4 to holders of record May 19.

Chicago Great Western.—5% preferred, accum., 62½¢, payable June 29 to holders of record June 14.

Delaware & Bound Brook.—50¢, quarterly, payable June 9 to holders of record June 2.

Erie.—50¢, payable June 15 to holders of record May 31.

Erie & Pittsburgh.—83⅓¢, quarterly, payable June 9 to holders of record May 31.

Illinois Central.—(leased lines) 4% guaranteed, $2.00, semi-annually, payable July 1 to holders of record June 11.

Kansas, Oklahoma & Gulf.—6% preferred A; 6% preferred B, both $3.00, both semi-annually; 6% non-cum. preferred C, $2.00; all payable June 1 to holders of record May 19.

Little Miami.—Special guaranteed, 50¢, quarterly; $4.30 original capital, $1.10; both payable June 9 to holders of record May 25.

Little Schuylkill Navigation RR. & Coal.—75¢, semi-annually, payable July 16 to holders of record June 8.

North Pennsylvania.—$1.00, quarterly, payable June 9 to holders of record June 2.

Philadelphia, Germantown & Norristown.—$1.50, quarterly, payable June 4 to holders of record May 21.

Southern Pacific.—75¢ quarterly, payable June 18 to holders of record May 28.

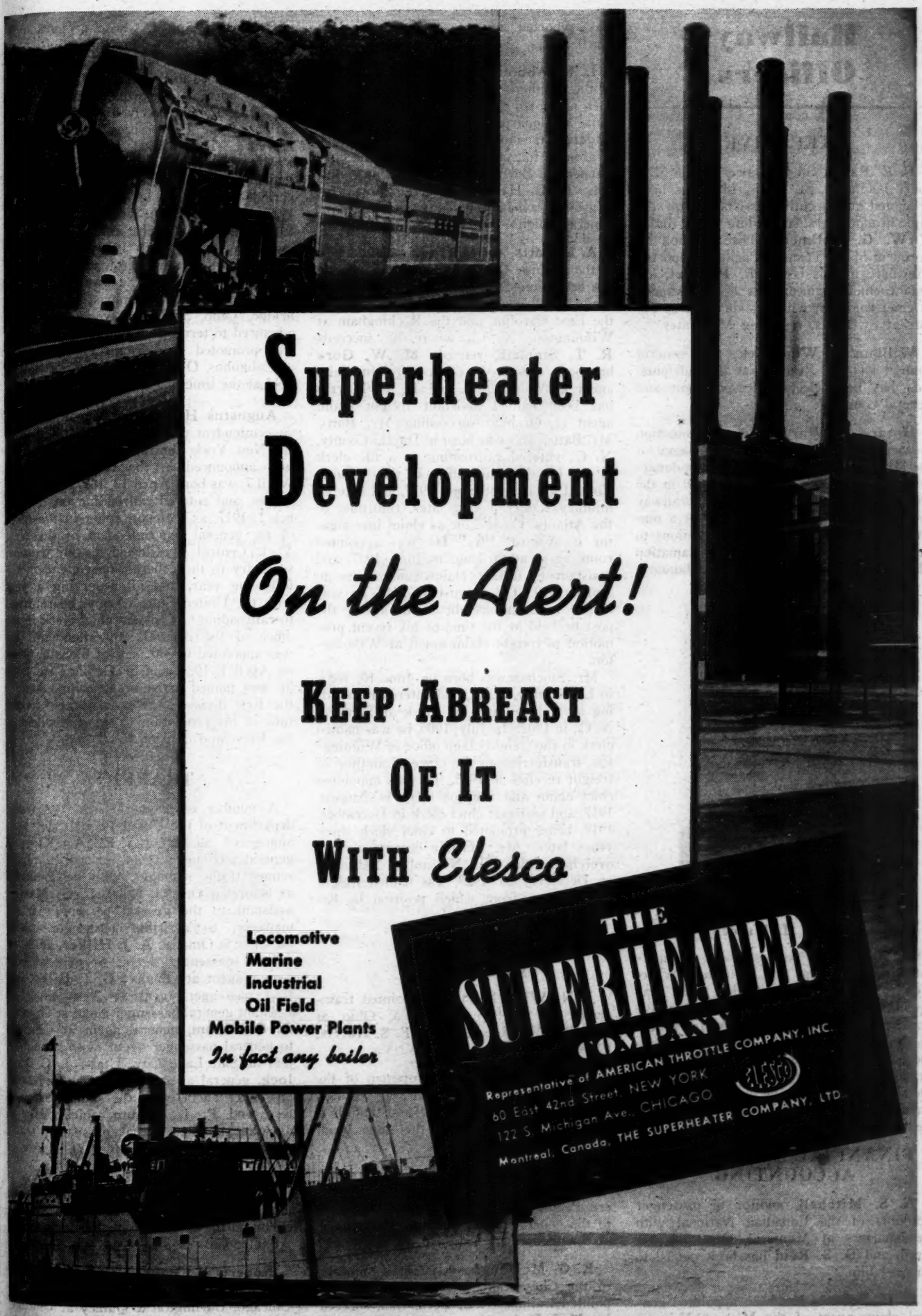
West Jersey & Seashore.—6% special guaranteed, $1.50, semi-annually, payable June 1 to holders of record May 15.

Abandonments

CHICAGO, ATTICA & SOUTHERN.—This road and Dulien Steel Products, Inc., its proprietor, have applied to the Interstate Commerce Commission for authority to abandon its entire line from Morocco, Ind., to Veedersburg, 62.1 miles. A similar application was denied by Division 4 last year (as reported in *Railway Age* of September 9, 1944), without prejudice to a renewal "after termination of the war."

KANE & ELK.—This road has asked the Interstate Commerce Commission to authorize the abandonment of its entire line from East Kane, Pa., to James City, 3 miles.

News Department continued on next left-hand page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Development
On the Alert!
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OF IT
WITH Elesco
Locomotive
Marine
Industrial
Oil Field
Mobile Power Plants
In fact any boiler
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Railway Officers

EXECUTIVE

F. E. Bates, chief engineer of the Missouri Pacific at St. Louis, Mo., has been promoted to executive assistant with the same headquarters, succeeding to the duties of **W. G. Vollmer,** whose election to president of the Texas & Pacific is reported elsewhere in this issue. **R. P. Hart,** assistant chief engineer, has been advanced to chief engineer, with headquarters as before at St. Louis, replacing Mr. Bates.

William I. Woodcock, Jr., general counsel of the Reading at Philadelphia, Pa., has been elected vice-president and general counsel.

Horace M. Warden, whose promotion to vice-president and general manager of the Missouri-Kansas-Texas, with headquarters at Dallas, Tex., was announced in the *Railway Age* of May 5, entered railway service in 1914 with the M-K-T as a machinist, receiving subsequent promotions to become superintendent of the reclamation plant at Parsons, Kan., in 1916. In January,

Horace M. Warden

1924, Mr. Warden was advanced to superintendent of shops at Bellmead, Waco, Tex., and in February of that same year became superintendent of the locomotive department of shops at Parsons. In August of the following year he was promoted to mechanical superintendent with the same headquarters, serving in that capacity until October, 1927, when he was advanced to chief mechanical officer, the position he held at the time of his new appointment.

FINANCIAL, LEGAL AND ACCOUNTING

A. S. Mitchell, auditor of passenger accounts of the Canadian National with headquarters at Montreal, Que., has retired, and **G. S. Reid** has been named to succeed him.

C. H. Schutte has been appointed general claim agent of the Missouri-Kansas-Texas with headquarters at Dallas, succeeding **W. L. Alexander** whose death was reported in the *Railway Age* of April 21.

L. M. Abbot, assistant general solicitor of the Southern at Washington, D. C., has been promoted to general solicitor with the same headquarters, succeeding **Sidney S. Alderman,** who has been granted a leave of absence for special service with the government in the prosecution of Axis criminals. **H. G. Hedrick,** general attorney at Washington, has been advanced to assistant general solicitor replacing Mr. Abbot.

A. L. Batts, assistant freight claim agent of the Atlantic Coast Line at Orlando, Fla., has been named freight claim agent of that road, the Columbia, Newberry & Laurens, the East Carolina and the Rockingham at Wilmington, N. C., where he succeeds **R. T. Sinclair,** retired. **M. W. Gore** has been appointed assistant freight claim agent at Wilmington, and **H. F. Harris** has been named assistant freight claim agent at Orlando succeeding Mr. Batts. Mr. Batts, who was born in Duplin County, N. C., entered railroading as a file clerk in the freight claim office of the Atlantic Coast Line in September, 1917, and entered military service a year later, returning to the Atlantic Coast Line as claim investigator in August, 1921. He was appointed route agent at Orlando in June, 1937, and assistant to freight claim agent there in April, 1939. On August 1, 1943, he was named assistant freight claim agent, the post he held at the time of his recent promotion to freight claim agent at Wilmington.

Mr. Sinclair was born on June 16, 1883, in Lee County, N. C., and entered railroading as transfer and bill clerk at Sanford, N. C., in 1902. In July, 1906, he was named clerk in the freight claim office at Wilmington, transferring to the office of auditor of freight receipts in 1915. He was appointed chief claim and revision clerk in August, 1917, and assistant chief clerk in December, 1918, being promoted to chief clerk three years later. Mr. Sinclair became auditor overcharge claims in November, 1923, and on December 28, 1928, was named freight claim agent, from which position he has now retired.

OPERATING

J. N. Wills has been appointed trainmaster of the Chesapeake & Ohio at Rainelle, W. Va., succeeding **F. S. Harris,** transferred to St. Albans, W. Va.

E. L. Banion, general foreman of the Atchison, Topeka & Santa Fe at Needles, Cal., has been promoted to assistant division superintendent, with the same headquarters.

O. Homer Bryan, locomotive engineman on the Western division of the Western Pacific, has been promoted to assistant to the general manager, with headquarters at San Francisco, Cal.

E. G. McDougle, assistant trainmaster of the Chesapeake & Ohio, has been appointed trainmaster at Peru, Ind., succeeding M. I. Dunn, whose promotion to superintendent there was announced in the *Railway Age* of February 24.

B. Ralph Gould, whose promotion to superintendent of the Hocking division of the Chesapeake & Ohio at Columbus, Ohio, was announced in the *Railway Age* of May 19, was born at Concordia, Kan., on October 19, 1902, and received his higher education at the Universities of Kansas and Harvard. He worked for the Missouri Pacific, Union Pacific and the Delaware, Lackawanna & Western during vacation periods from 1918 to 1924. In January, 1927, Mr. Gould went with the Chesapeake & Ohio as assistant cost engineer at Huntington, W. Va., and in 1929 was advanced to transportation inspector with the same headquarters. In 1936 he was promoted to assistant terminal trainmaster at Walbridge, Ohio, and three years later was advanced to terminal trainmaster there. He was promoted to assistant superintendent at Columbus, Ohio, in 1943, the position he held at the time of his new appointment.

Augustus Hart, whose appointment as superintendent of the Cleveland division of the New York Central at Cleveland, Ohio, was announced in the *Railway Age* of April 7, was born April 12, 1897, at Cardiff, Wales, and entered railroading on December 1, 1917, as a stenographer in the office of the general superintendent of the New York Central at Cleveland. He became secretary to the general superintendent the following year, and after serving a year with the United States Army, he returned to railroading as assistant chief clerk in the office of the general superintendent. He was appointed trainmaster at Toledo, Ohio, on April 1, 1936, and on October 16, 1942, he was named assistant superintendent of the Erie division, the post he held at the time of his promotion to superintendent of the Cleveland division.

TRAFFIC

A number of promotions in the traffic department of the Union Pacific have been announced as follows: **E. A. Klippel,** general passenger agent, to assistant passenger traffic manager, with headquarters as before at Omaha, Neb.; **L. G. Meder,** assistant to the general passenger traffic manager, to assistant passenger traffic manager at Omaha; **A. J. Hilker,** assistant general passenger agent, to general passenger agent at Omaha; **G. I. Giles,** district passenger agent at New York, to assistant general passenger agent at Omaha; **A. G. Bloom,** general agent at Chicago, to general passenger agent, with headquarters at Salt Lake City, Utah; **J. C. Pollock,** general agent at Chicago, to general passenger agent, with the same headquarters, and **F. J. Pflaum,** chief clerk, to assistant to the general passenger traffic manager, with headquarters as before at Omaha.

H. E. Robins has been appointed assistant general freight agent of the Atlanta, Birmingham & Coast with headquarters at Atlanta, Ga.

Robert E. Barr, chief clerk to the assistant general traffic manager of the Chicago, Burlington & Quincy at Chicago, has been promoted to general agent, freight department, with headquarters at Minneapolis, Minn.

J. A. Hewitt, assistant general freight agent of the Pere Marquette at Chicago, has been promoted to assistant freight traffic manager, with the same headquarters. **John E. Clark,** division freight agent at Saginaw, Mich., has been advanced to assistant general freight agent, with headquarters at Chicago, succeeding Mr. Hewitt.

Oliver J. Williford, Jr., assistant manager of the foreign freight traffic department of the Illinois Central at Chicago, has been promoted to manager of that department, with the same headquarters, succeeding **Thomas E. Harris,** who has retired. **Monroe J. Flicker,** general agent at Milwaukee, has been advanced to assistant manager of the foreign freight traffic department, with headquarters at Chicago, replacing Mr. Williford.

Edwin N. Aiken, assistant passenger traffic manager of the Southern at Atlanta, Ga., has been promoted to the newly created position of passenger traffic manager with the same headquarters. Mr. Aiken was born at Cincinnati, Ohio, and entered railroading with the Southern at Cincinnati on August 1, 1902, as a rate and division clerk. He served as traveling passenger agent at Lexington, Ky., and as northeastern passenger agent at Detroit, Mich., from

Edwin N. Aiken

1904 to February, 1906, when he returned to Cincinnati as chief rate clerk in the passenger traffic department. In August, 1908, he was promoted to chief clerk there, becoming assistant general passenger agent on November 1, 1912, and general passenger agent in January, 1917. Mr. Aiken transferred to Washington, D. C., in July, 1926, and to Atlanta in December, 1928. On April 15, 1931, he was named assistant passenger traffic manager at Atlanta, the position he held at the time of his recent advancement to passenger traffic manager there.

S. S. Hankis, general freight agent of the Chicago, Burlington & Quincy at Chicago, has been promoted to western traffic manager with headquarters at San Francisco, Cal., to succeed the late **G. B. Smith. L. R. Schramm,** general freight agent at Denver, Colo., has been transferred to Chicago, relieving Mr. Hankis. **Spencer L. Parker,** general agent (freight department) at Minneapolis, Minn., has been advanced to general freight agent with headquarters at Denver, replacing Mr. Schramm, and **G. A. Barr,** chief clerk to the assistant general freight agent at Chicago, has been promoted to general agent (freight department) with headquarters at Minneapolis, relieving Mr. Parker.

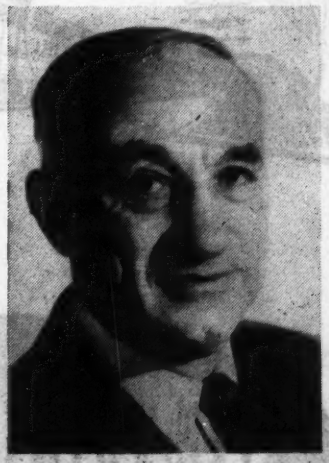
ENGINEERING & SIGNALING

B. E. Widder, whose appointment as engineer of buildings of the Atlantic Coast Line at Wilmington, N. C., was announced

B. E. Widder

in the *Railway Age* of April 28, was born in Pennsylvania and attended Drexel Institute of Technology at Philadelphia, Pa. He entered railroading with the Atlantic Coast Line on May 24, 1917, and after serving with the United States Army from February, 1918, to May, 1919, he returned to railroad service with that company. Mr. Widder has been engaged in general design and architectural work for the Atlantic Coast Line from 1920 to the present, with the exception of brief period from December, 1926, to January, 1927, and was serving as an architect at the time of his recent appointment as engineer of buildings.

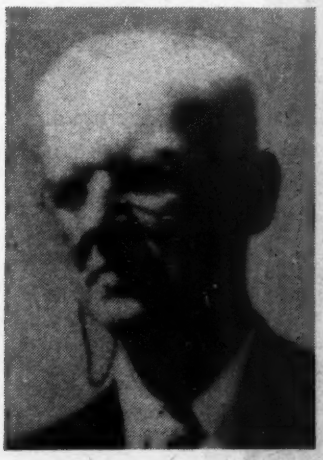
Kenneth L. Miner, whose appointment as engineer of bridges of the New York Central Lines Buffalo & East at New



Kenneth L. Miner

York was announced in the *Railway Age* of May 5, was born at Albany, N. Y., on August 26, 1888, and was graduated as a civil engineer from the University of Pennsylvania in 1912. He entered railroading with the New York Central on September 27, 1912, as chainman in the office of the division engineer at Albany, and served subsequently as rodman, bridge inspector, assistant supervisor of bridges and buildings, and supervisor of bridges and buildings successively until the advent of World War II, when he was commissioned a captain in the Military Railway Service, spending 21 months overseas as superintendent of structures. Mr. Miner was attached to the 701st Railway Grand Division, and his duties included reconstruction of railway bridges, opening up of tunnels, and reestablishment of railway structures, first in North Africa, and later in Italy. Upon receiving his honorable discharge, Mr. Miner returned to New York Central service and was appointed engineer of bridges.

George Gillett Thomas, whose appointment as engineer of bridges of the Atlantic Coast Line at Wilmington, N. C., was announced in the *Railway Age* of April 28, was born at Wilmington on January 25, 1883, and attended the University of North Carolina. He entered railroading on December 31, 1906, as a draftsman in the mechanical department of the Atlantic Coast Line, and in November,



George Gillett Thomas

1911, he became draftsman, office of the engineer of bridges, in the engineering department. He was appointed resident engineer of the construction department in January, 1917, returning to the engineering department the following October as assistant engineer. In September, 1919, he was named office engineer, and one year later he became engineer of bridges in charge of design, erection and maintenance of steel bridges. On November 1, 1929, Mr. Thomas was appointed engineer, metal structures, at Wilmington, remaining in that post until his recent assignment as engineer of bridges in charge of design, erection and maintenance of steel bridges and substructures, of highway bridges, and of the design of wooden trestles.

MECHANICAL

F. P. Theisen, chief clerk, mechanical department of the Chicago & North West-

News Department continued on second left-hand page

IT'S A GREAT NEW DAY FOR RAILROADING

A POSTWAR PROPHECY

GM LOCOMOTIVES

After the war, industries will favor railroads able to deliver faster, on-time, dependable freight service.

That is one reason that General Motors Diesel freight locomotives are a "must" on many lists.

ern with headquarters at Chicago has been promoted to assistant to the chief mechanical officer, succeeding **Geo. W. Bohannon,** whose promotion to assistant chief mechanical officer was announced in the *Railway Age* of May 19.

Harold Forsyth Finnemore, whose appointment as chief electrical engineer of the Canadian National was announced in the *Railway Age* of May 19, was born at Chicago on March 18, 1893, and received his B. S. degree in electrical engineering from Queen's University in 1917. He entered railroading the following year as a draftsman for the Canadian Government Railways and in September, 1922, he was

Harold Forsyth Finnemore

appointed assistant engineer of the Canadian National, becoming assistant electrical engineer with headquarters at Montreal in 1923. In July, 1938, he was named electrical engineer at Montreal, and in December, 1943, he was advanced to assistant chief electrical engineer, the position he held at the time of his recent appointment as chief electrical engineer.

J. E. Goodwin, whose promotion to chief mechanical officer of the Chicago & North Western with headquarters at Chicago was reported in the *Railway Age* of May 19, entered railway service as a

J. E. Goodwin

machinist's apprentice with the Atchison, Topeka & Santa Fe in 1917 and after completing his apprenticeship resigned to enter college, studying engineering at Wake Forest College and the University of Chicago. He re-entered railroad service in 1925 as a machinist on the Missouri Pacific at Hoisington, Kan., and the following year he was promoted to enginehouse foreman. In 1929 he was appointed foreman of the backshop at Little Rock, Ark., later serving as acting superintendent for a short time and then as general foreman. On January 28, 1941, Mr. Goodwin was advanced to master mechanic of the Palestine and San Antonio division of the International-Great Northern (part of the Missouri Pacific system), with headquarters at San Antonio, Tex., and in January 1, 1942, he was promoted to assistant chief mechanical officer at Chicago, the position he held at the time of his recent appointment.

OBITUARY

Walter H. Jacobs, general solicitor of the Chicago Great Western, with headquarters at Chicago, died at his home in that city on May 21.

S. S. Long, division engineer of the Chicago & North Western, with headquarters at Chadron, Neb., died in a hospital in that city on May 21.

Robert B. Holmes, who retired in 1940 as assistant general passenger agent of the New York Central, with headquarters at Chicago, died at his home in that city on May 20.

W. H. Petersen, who retired in 1937 as chief engineer of the Chicago, Rock Island & Pacific, with headquarters at Chicago, died in a Dixon (Ill.) hospital on May 21, following an operation.

P. A. Ellerman, who retired in 1937 as superintendent, dining car service, of the Lehigh Valley, died in a hospital at Easton, Pa., on May 16.

H. T. Hazen, who retired in 1938 as chief engineer of the Canadian National's Atlantic region at Moncton, N. B., died May 4 at Oakville, Ont.

Julius A. Wall, who retired as superintendent of transportation, Northern division, of the Atlantic Coast Line in July, 1943, died on April 20.

T. A. Martin, freight traffic manager of the Illinois Northern and the Chicago, West Pullman & Southern, whose death on May 7 was reported in the *Railway Age* of May 12, was born at Chicago on May 24, 1886, and entered the service of the two above roads in 1909. He subsequently held various positions until 1936 when he was advanced to general freight agent, with the same headquarters. At that time he was also elected a director of the Chicago, West Pullman & Southern. In May, 1937, Mr. Martin was promoted to the positions he held at the time of his death.

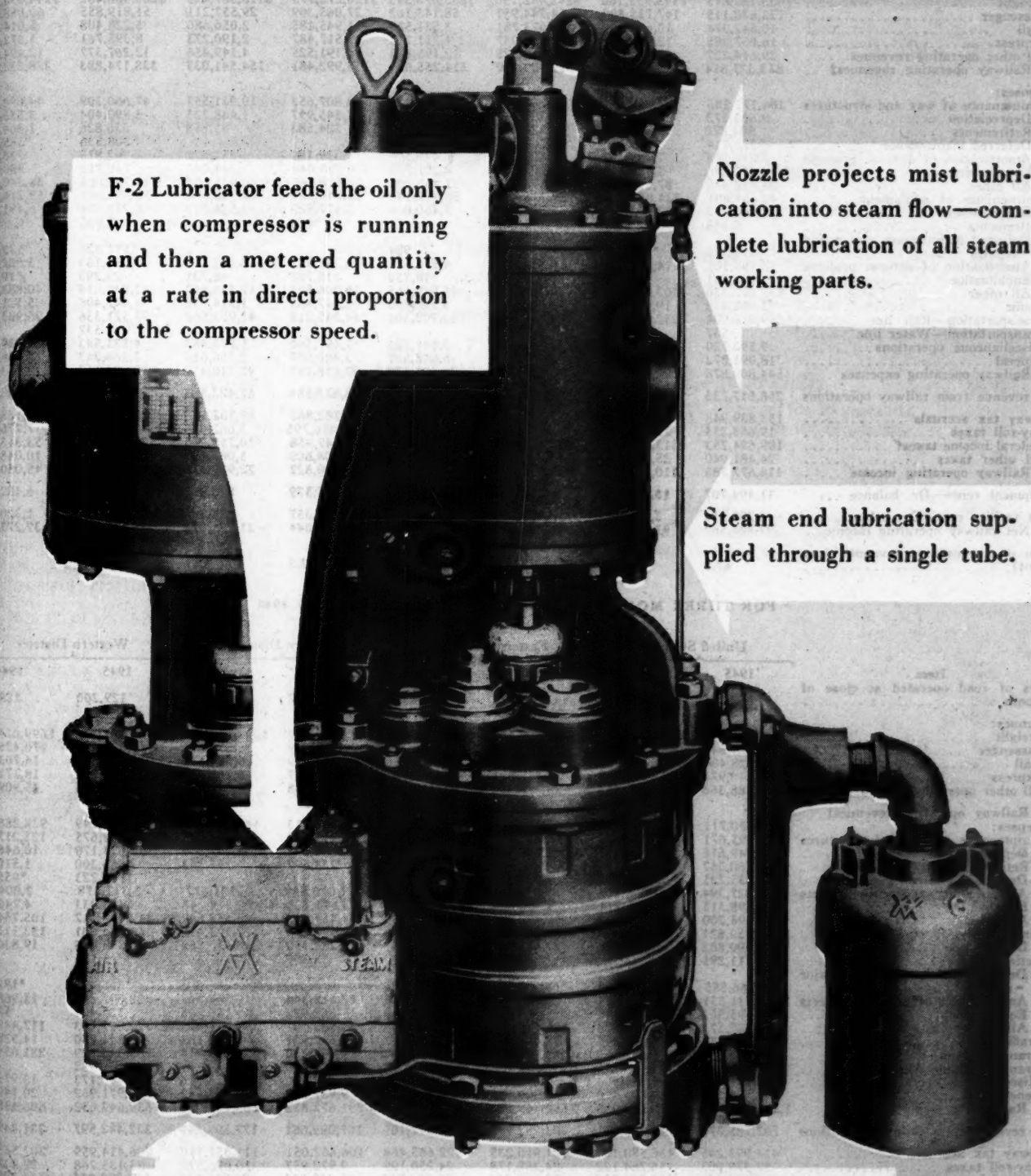
George P. James, passenger traffic manager of the Atlantic Coast line at Wilmington, N. C., died there recently after a long illness. Mr. James was born at Wilmington on September 23, 1878, and entered railroading in September, 1893, as a freight delivery clerk with the Cape Fear & Yadkin Valley (now the A. C. L.), becoming billing clerk in 1895 and receiving clerk in 1897. In October, 1898, he joined the Atlantic Coast Line as stenographer in the traffic department at Wilmington, and two years later he was appoined passenger clerk. After serving as clerk to the president and secretary to the 3rd vice-president successively, Mr. James was named district passenger agent at Washington, D. C., in November, 1905, and in May, 1918, he became general agent, remaining in that post until July, 1920, when he was promoted to assistant general passenger agent. In November, 1923, he was further advanced to general passenger agent, the position he held in June, 1940, when he was appointed passenger traffic manager.

George T. Hand, consulting engineer of the Lehigh Valley, who retired as chief engineer of that road in June, 1937, died on May 13 in the Orange (N. J.) Memorial Hospital after a brief illness. Mr. Hand was born at Elizabeth, N. J., and entered railroading in 1889 as a rodman on the National Docks Railway, now a part of the Lehigh Valley. He was principal assistant engineer of the same road from 1895 to 1900, in charge of the construction of the railroad, docks and warehouses, including the present terminal of the Lehigh Valley at National Docks, Jersey City. Mr. Hand went with the Delaware, Lackawanna & Western in 1900 as assistant engineer. His work in this capacity consisted primarily of laying out and reconstructing the Hoboken, N. J., passenger and freight terminals. In 1909 he was appointed terminal engineer of the Lackawanna in charge of the maintenance and construction of buildings, docks, and bridges, and from 1911 to 1917 he was division engineer of the Morris and Essex division. Mr. Hand was appointed chief engineer of the Lehigh Valley in May, 1917, with headquarters at New York, later being transferred to Bethlehem, Pa.

John Earl Saunders, who retired in 1942 as signal engineer of the Delaware, Lackawanna & Western with headquarters at Hoboken, N. J., and who more recently had served as a consultant of that road, died on May 22 at Maplewood, N. J., after a long illness. Mr. Saunders, who was born at Nickerson, Kans., on December 30, 1884, and was graduated from Armour Institute of Technology in 1907, receiving his electrical engineering degree in 1911, entered railroading with the Atchison, Topeka & Santa Fe in 1900, and after serving in various engineering positions he was appointed assistant signal engineer in 1910. He joined the Delaware, Lackawanna & Western in a similar capacity in 1913, and the following year he went with the Union Switch & Signal Co., serving as assistant chief engineer until 1924, when he returned to the D. L. & W. as signal engineer, the position he held at the time of his retirement in 1942.

Table of Operating Revenues and Expenses appears on next left-hand page

Controlled Compressor Lubrication *by* "F-2" Lubricator



F-2 Lubricator feeds the oil only when compressor is running and then a metered quantity at a rate in direct proportion to the compressor speed.

Nozzle projects mist lubrication into steam flow—complete lubrication of all steam working parts.

Steam end lubrication supplied through a single tube.

F-2 Lubricator Mounted on Pads on the Air Cylinders. Air cylinders lubricated through feed ports in mounting pads.

Westinghouse Air Brake Company

Wilmerding, Pa.

Operating Revenues and Operating Expenses of Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF MARCH, 1945 AND 1944

Item	United States		Eastern District		Southern District		Western District	
	1945	1944	1945	1944	1945	1944	1945	1944
Miles of road operated at close of month	228,530	228,811	56,009	56,104	43,327	43,386	129,194	129,321
Revenues:								
Freight	$623,183,613	$596,953,166	$242,442,156	$235,673,595	$120,272,975	$116,587,415	$260,468,482	$244,692,156
Passenger	133,630,115	147,758,899	54,744,951	58,143,162	27,065,309	29,557,211	51,819,855	60,058,526
Mail	10,842,374	10,603,134	3,673,781	3,531,539	1,945,185	2,056,680	5,223,408	5,014,915
Express	16,057,285	12,874,417	5,144,037	4,711,711	2,517,487	2,190,273	8,395,761	5,972,433
All other operating revenues	29,614,227	28,839,598	13,155,325	12,195,684	4,191,525	4,149,456	12,267,377	12,494,458
Railway operating revenues‡	813,327,614	797,029,214	319,160,250	314,255,691	155,992,481	154,541,035	338,174,883	328,232,488
Expenses:								
Maintenance of way and structures	104,771,506	101,856,064	38,303,544	38,129,779	18,807,653	19,031,557	47,660,309	44,694,728
Depreciation	9,663,372	8,812,343	4,224,971	3,807,987	1,545,997	1,448,723	3,892,404	3,555,633
Retirements	584,672	1,459,697	123,263	309,525	124,583	85,858	336,826	1,064,314
Deferred maintenance	*373,114	*511,176	*64,578	*125,475	.....	.....	*308,536	*385,701
Amortization of defense projects	2,241,008	1,469,367	699,004	479,308	339,189	251,272	1,202,815	738,787
Equalization	4,242,896	3,432,578	2,724,140	2,207,728	769,044	344,042	749,712	880,808
All other	88,412,672	87,193,255	30,596,744	31,450,706	16,028,840	16,901,662	41,787,088	38,840,887
Maintenance of equipment	140,461,491	134,882,359	57,726,665	56,929,144	26,840,129	24,738,614	55,894,697	53,214,601
Depreciation	17,951,333	17,497,306	7,601,430	7,480,064	3,577,827	3,525,712	6,772,076	6,491,530
Retirements	6,148	.....	*1,389	.....	*438	.....	7,975	.....
Deferred maintenance and major repairs	*118,952	*131,583	*1,126	984	.....	.....	*117,826	*132,567
Amortization of defense projects	17,406,501	14,181,237	5,813,896	4,579,679	4,237,442	3,619,511	7,355,163	5,982,047
Equalization	138,731	57,108	*8,271	18,752	118,707	48,731	28,295	*10,375
All other	105,077,730	103,278,291	44,322,125	44,849,665	18,906,591	17,544,660	41,849,014	40,883,966
Traffic	11,981,448	10,835,198	4,286,487	3,998,390	2,247,463	1,714,938	5,447,498	5,121,870
Transportation—Rail line	259,912,904	252,766,092	118,146,353	113,909,306	44,245,215	41,953,262	97,521,336	96,903,524
Transportation—Water line	537	872	.....	.....	.....	.....	537	872
Miscellaneous operations	9,590,720	10,378,807	3,561,817	3,516,226	1,497,360	1,923,489	4,531,543	4,939,092
General	18,091,272	16,713,963	7,342,052	6,818,527	3,480,977	2,756,612	7,268,243	7,138,824
Railway operating expenses	544,809,878	527,433,355	229,366,918	223,301,372	97,118,797	92,118,472	218,324,163	212,013,511
Net revenue from railway operations	268,517,736	269,595,859	89,793,332	90,954,319	58,873,684	62,422,563	119,850,720	116,218,977
Railway tax accruals	153,839,948	158,782,714	40,697,465	48,141,700	37,782,862	39,502,188	75,359,621	71,138,826
Pay-roll taxes	19,663,255	19,706,835	8,242,353	8,267,971	3,426,795	3,662,494	7,994,107	7,776,370
Federal income taxes†	109,694,753	113,622,317	22,355,212	29,552,647	29,147,458	30,755,995	58,192,083	53,313,675
All other taxes	24,481,940	25,453,562	10,099,900	10,321,082	5,208,609	5,083,699	9,173,431	10,048,781
Railway operating income	114,677,788	110,813,145	49,095,867	42,812,619	21,090,822	22,920,375	44,491,099	45,080,151
Equipment rents—Dr. balance	11,494,707	13,704,483	7,106,599	6,351,296	*195,579	870,998	4,583,687	6,482,189
Joint facility rent—Dr. balance	3,298,514	3,255,335	1,671,204	1,606,237	339,357	328,305	1,287,953	1,320,793
Net railway operating income	99,884,567	93,853,327	40,318,064	34,855,086	20,947,044	21,721,072	38,619,459	37,277,169
Ratio of expenses to revenues (per cent)	67.0	66.2	71.9	71.1	62.3	59.6	64.6	64.6

FOR THREE MONTHS ENDED WITH MARCH, 1945 AND 1944

Item	United States		Eastern District		Southern District		Western District	
	1945	1944	1945	1944	1945	1944	1945	1944
Miles of road operated at close of month	228,544	228,840	56,012	56,114	43,332	43,388	129,200	129,338
Revenues:								
Freight	$1,718,877,129	$1,696,813,931	$641,878,593	$663,202,735	$342,665,640	$334,533,494	$734,332,896	$699,077,702
Passenger	398,729,841	423,754,914	162,141,559	166,491,375	81,564,899	86,837,317	155,023,383	170,426,222
Mail	31,728,404	30,747,808	10,549,798	10,259,486	5,626,919	5,784,550	15,551,687	14,703,772
Express	40,546,971	37,076,085	12,335,697	12,638,782	6,209,307	6,265,611	22,001,967	18,171,692
All other operating revenues	87,588,366	84,613,672	38,716,302	36,417,316	12,695,748	12,287,237	36,176,316	35,909,119
Railway operating revenues‡	2,277,470,711	2,273,006,410	865,621,949	889,009,694	448,762,513	445,708,209	963,086,249	938,288,507
Expenses:								
Maintenance of way and structures	294,195,671	282,034,198	109,427,403	107,621,798	53,935,593	51,194,416	130,832,675	123,217,984
Depreciation	28,949,618	26,440,555	12,724,949	11,426,421	4,600,499	4,367,249	11,624,170	10,646,885
Retirements	1,160,367	2,497,558	266,370	733,515	238,697	253,353	655,300	1,510,690
Deferred maintenance	*835,221	*1,103,159	*126,998	*147,608	.....	.....	*708,223	*955,551
Amortization of defense projects	6,327,394	4,098,064	1,939,167	1,371,902	1,070,549	721,517	3,317,678	2,004,645
Equalization	16,198,313	15,461,811	9,153,874	8,900,899	3,571,406	2,314,248	3,473,033	4,246,664
All other	242,395,200	234,639,369	85,470,041	85,336,669	44,454,442	43,538,049	112,470,717	105,764,651
Maintenance of equipment	407,459,621	389,437,716	165,857,670	164,203,792	77,547,870	72,122,410	164,054,081	153,111,514
Depreciation	53,500,802	52,788,276	22,511,586	22,300,331	10,735,190	10,657,863	20,254,026	19,830,082
Retirements	*11,295	.....	*9,144	.....	*5,287	.....	3,136	.....
Deferred maintenance and major repairs	*366,555	*183,359	*1,126	8,984	.....	.....	*365,429	*192,343
Amortization of defense projects	*51,431,531	39,071,885	17,008,943	12,935,175	12,415,344	10,167,867	22,007,244	15,968,843
Equalization	495,565	271,540	*758	28,450	368,922	185,205	127,401	57,885
All other	302,409,573	297,489,374	126,348,169	128,930,852	54,033,701	51,111,475	122,027,703	117,447,047
Traffic	35,047,573	32,641,097	12,465,422	11,792,197	6,637,901	5,920,182	15,944,250	14,928,718
Transportation—Rail line	757,403,666	740,297,983	343,023,907	334,714,014	129,036,230	124,529,714	285,343,529	281,054,255
Transportation—Water line	982	871	.....	.....	.....	.....	982	871
Miscellaneous operations	28,761,766	29,234,904	10,688,103	10,340,864	4,577,490	4,918,596	13,496,173	13,975,444
General	51,816,361	49,893,490	20,906,651	20,319,924	9,937,748	9,423,642	20,971,962	20,149,924
Railway operating expenses	1,574,685,640	1,523,540,259	662,369,156	648,992,589	281,672,832	268,108,960	630,643,652	606,438,710
Net revenue from railway operations	702,785,071	749,466,151	203,252,793	240,017,105	167,089,681	177,599,249	332,442,597	331,849,797
Railway tax accruals	414,993,245	436,580,160	101,916,235	122,665,468	106,662,051	111,351,110	206,414,959	202,563,582
Pay-roll taxes	57,376,903	56,764,122	24,268,178	24,250,199	9,972,957	10,076,577	23,135,768	22,437,346
Federal income taxes†	285,605,431	306,195,082	48,553,744	68,372,542	81,260,732	86,045,122	155,790,955	151,777,418
All other taxes	72,010,911	73,620,956	29,094,313	30,042,727	15,428,362	15,229,411	27,488,236	28,348,818
Railway operating income	287,791,826	312,885,991	101,336,558	117,351,637	60,427,630	66,248,139	126,027,638	129,286,215
Equipment rents—Dr. balance	31,653,205	36,760,323	17,024,410	17,270,511	*31,155	2,155,119	14,659,950	17,334,693
Joint facility rent—Dr. balance	10,075,536	10,059,913	4,986,570	4,949,597	1,030,422	1,129,246	4,058,544	3,981,070
Net railway operating income	246,063,085	266,065,755	79,325,578	95,131,529	59,428,363	62,963,774	107,309,144	107,970,452
Ratio of expenses to revenues (per cent)	69.1	67.0	76.5	73.0	62.8	60.2	65.5	64.6

* Decrease, deficit, or other reverse items.
† Includes income tax, surtax, and excess-profits tax.
‡ Railway operating revenues are after deduction of $10,019,207 for the three months ended with March 1945 and $9,668,074 for the three months ended with March 1944 to create a reserve for land grant deduction in dispute.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

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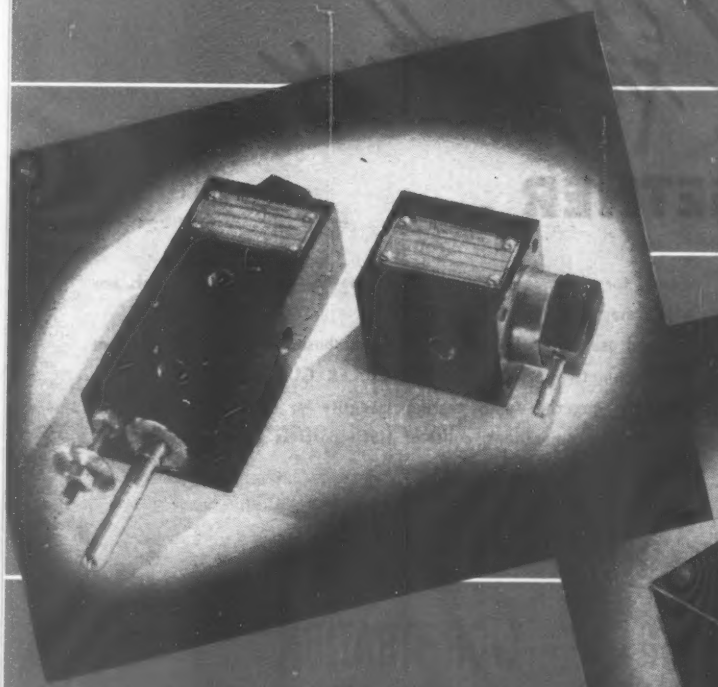

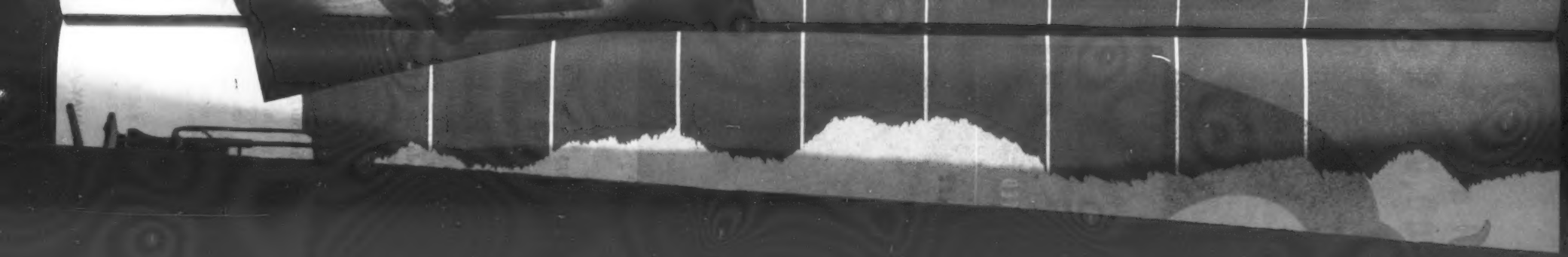

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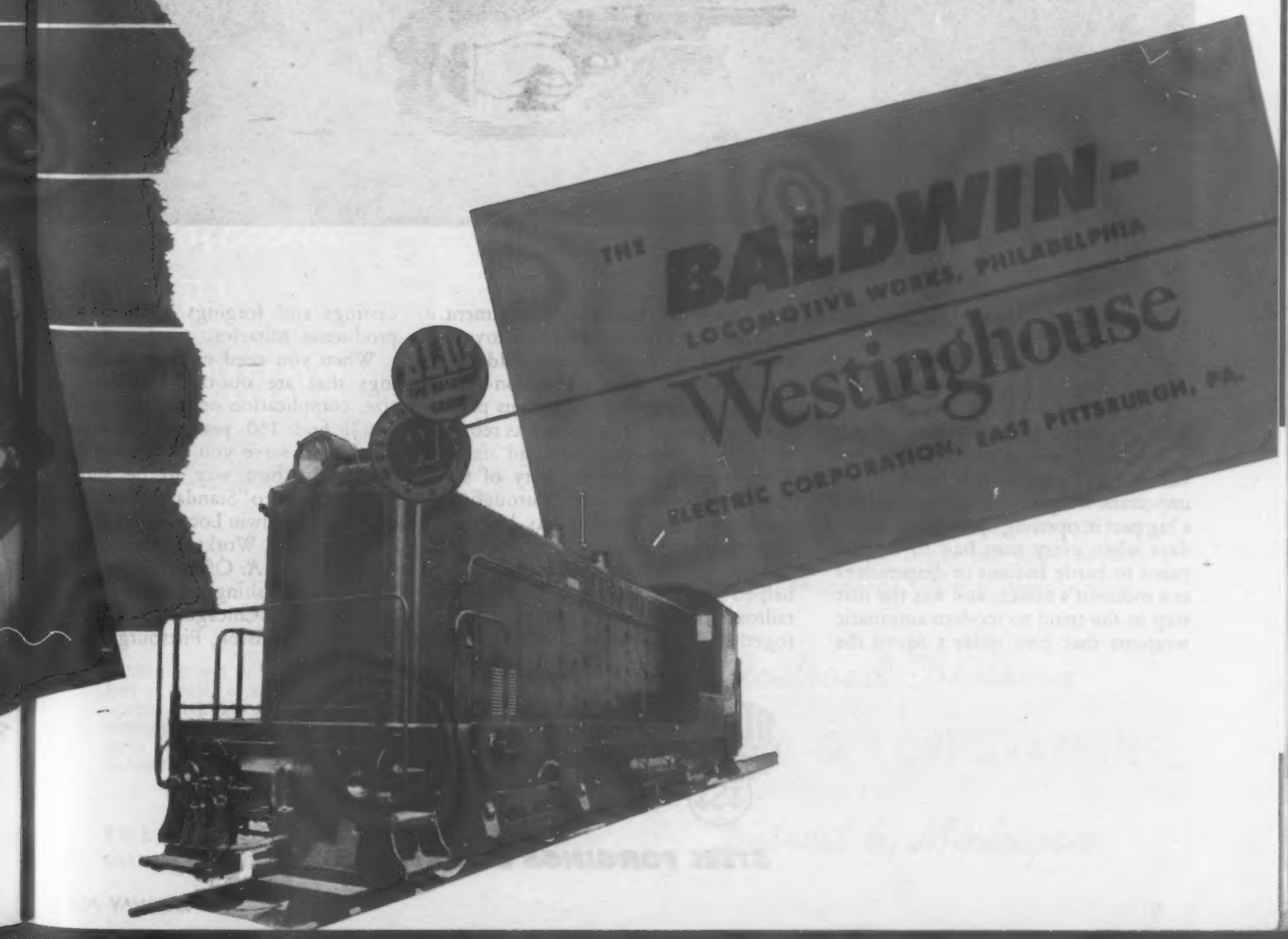

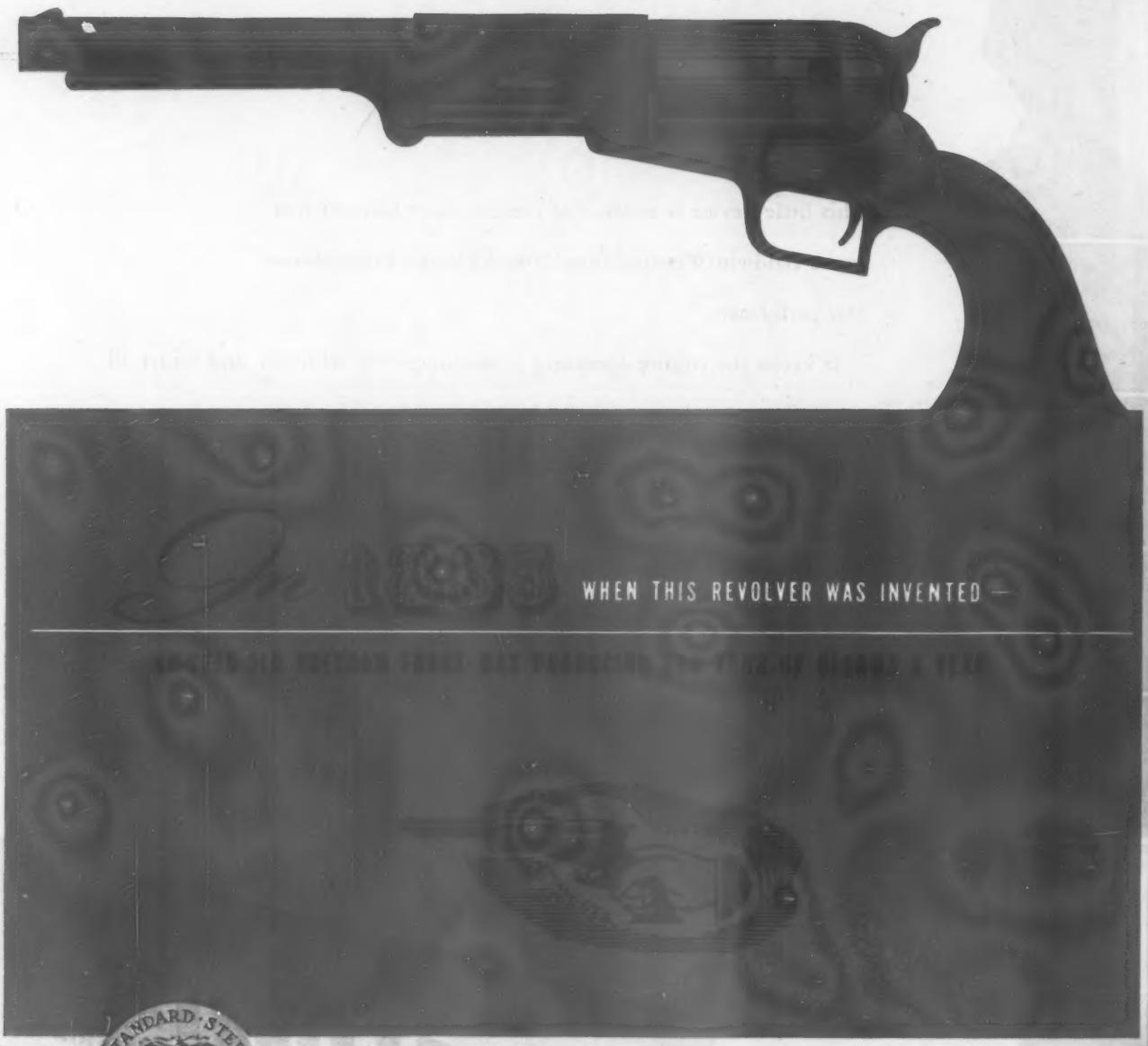

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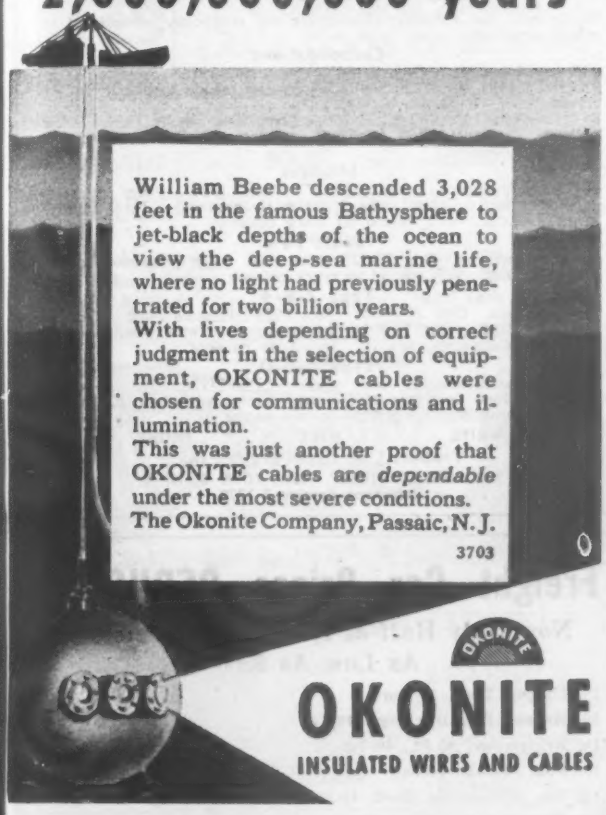

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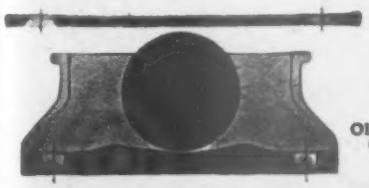

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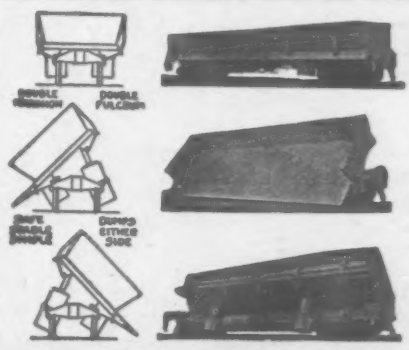

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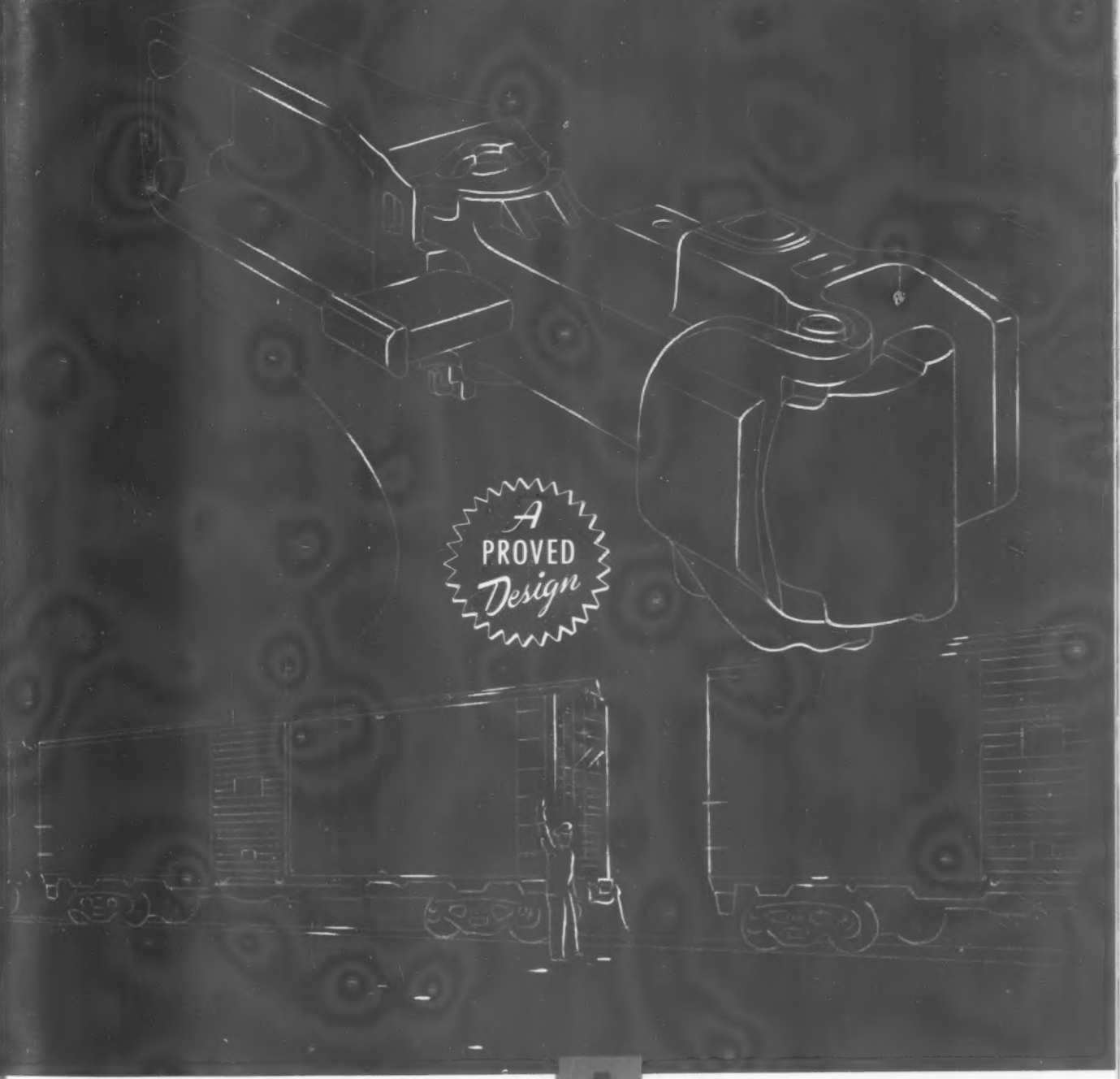

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